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Master in Business Administration - MBA

Postgraduate Dissertation

“Assessing the North Atlantic Treaty Organization Special Operations
University’s Leadership Academy Programme”

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Patras, Greece, March 2026

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Assessing the North Atlantic Treaty Organization Special Operations
University's Leadership Academy Programme.

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Dedication:

To my amazing wife, Zoi Chouliara and our three wonderful children Anna, Theologos-Ilias, and Vasiliki. They are the pillars of my life and the reason to be.

To the loving memory of my brother, Manolis.

Abstract

The modern battlefield is increasingly characterised by volatility, uncertainty, complexity, and ambiguity (VUCA). NATO Special Operation Forces (SOF) operate in this VUCA environment that require leaders capable of adaptive decision-making and effective multinational collaboration. The NSOU Leadership Academy programme was created to provide structured leadership development on the men and women of the NATO SOF community that will allow them to fulfil their missions in this VUCA environment, by achieving cognitive superiority over their adversaries. This study evaluates whether the programme is fit for purpose in developing the leadership capabilities required for the future NATO SOF Command Teams. A convergent mixed-methods research design was used with a structured questionnaire distributed to graduates of the NSOU Leadership Academy programme. Data were collected from 120 participants (N=120) representing a wide range of ranks, experience levels, and programme's course stages. Quantitative data were analysed using descriptive and inferential statistical techniques. Qualitative responses were analysed through thematic coding to identify recurring themes related to programme's effectiveness and leadership development.

Findings indicate the programme's positive contribution to participant's leadership identity formation, perceived leadership effectiveness, and organisational impact. Quantitative analysis shows that 74% of the responders reported increased confidence in their ability to make decision under uncertainty, as a result of their participation in the programme, while a large majority also reported improvements in their ability to mentor junior leaders and operate effectively within multinational teams. Multiple programme courses' graduates reported a clearly perceived cumulative progression across the programme's four stages. Qualitative analysis identified three reoccurring themes throughout the programme: leadership education, professional networking opportunities, and practical exercises based on realistic work place issues. These themes provide insight into possible avenues for enhancing both the overall effectiveness and usefulness of the NSOU Leadership Academy's programme.

The results suggest that the NSOU Leadership Academy Programme has an important role in strengthening leadership development across the NATO SOF community. The study also identifies opportunities to further enhance the programme's curriculum through expanded

experiential learning, strengthened multinational collaboration activities, and continued alignment with evolving operational leadership requirements.

Keywords

NATO, NSOU, SOF, Leadership, Curriculum

“Αξιολόγηση του Προγράμματος Ακαδημίας Ηγεσίας του Πανεπιστημίου Ειδικών Επιχειρήσεων του NATO.

Μια ανάλυση για το κατά πόσο και πώς το πρόγραμμα
επαγγελματικής επιμόρφωσης της Ακαδημίας Ηγεσίας του
Πανεπιστημίου Ειδικών Επιχειρήσεων του NATO προετοιμάζει
αποτελεσματικά τους μελλοντικούς πολυμήχανους πολεμιστές των
Δυνάμεων Ειδικών Επιχειρήσεων της Συμμαχίας”

“Ευάγγελος Τρασάνης”

Περίληψη

Το σύγχρονο πεδίο μάχης χαρακτηρίζεται ολοένα και περισσότερο από αστάθεια, αβεβαιότητα, πολυπλοκότητα και ασάφεια . Οι Ειδικές Δυνάμεις Επιχειρήσεων του NATO (ΔΕΕ) επιχειρούν σε αυτό το περιβάλλον που απαιτεί ηγέτες ικανούς για προσαρμοστική λήψη αποφάσεων και αποτελεσματική πολυεθνική συνεργασία. Το πρόγραμμα της Ακαδημίας Ηγεσίας του Πανεπιστημίου Ειδικών Επιχειρήσεων του NATO δημιουργήθηκε για να παρέχει δομημένη ανάπτυξη ηγεσίας σε άνδρες και γυναίκες της κοινότητας ΔΕΕ του NATO, η οποία θα τους επιτρέψει να εκπληρώσουν τις αποστολές τους σε αυτό το περιβάλλον αβεβαιότητας, επιτυγχάνοντας γνωστική υπεροχή έναντι των αντιπάλων τους. Αυτή η μελέτη αξιολογεί εάν το άνωθεν πρόγραμμα είναι κατάλληλο για τον σκοπό της ανάπτυξης των ηγετικών ικανοτήτων που απαιτούνται για τις μελλοντικές Ομάδες Διοίκησης Δυνάμεων Ειδικών Επιχειρήσεων του NATO. Χρησιμοποιήθηκε ένας συγκλίνοντας σχεδιασμός μικτών μεθόδων έρευνας με ένα δομημένο ερωτηματολόγιο που διανεμήθηκε σε αποφοίτους του προγράμματος της Ακαδημίας Ηγεσίας NSOU. Συλλέχθηκαν δεδομένα από 120 συμμετέχοντες (N=120) που αντιπροσωπεύουν ένα ευρύ φάσμα στρατιωτικών βαθμών, επιπέδων εμπειρίας και επίπεδου σχολείων του προγράμματος. Τα ποσοτικά δεδομένα αναλύθηκαν χρησιμοποιώντας περιγραφικές και επαγωγικές στατιστικές τεχνικές. Οι ποιοτικές απαντήσεις αναλύθηκαν μέσω θεματικής κωδικοποίησης για τον εντοπισμό επαναλαμβανόμενων θεμάτων που σχετίζονται με την

αποτελεσματικότητα του προγράμματος και την ανάπτυξη ηγεσίας. Τα ευρήματα υποδεικνύουν τη θετική συμβολή του προγράμματος στη διαμόρφωση της ηγετικής ταυτότητας των συμμετεχόντων, στην αντιληπτή αποτελεσματικότητα της ηγεσίας και στον οργανωτικό αντίκτυπο. Η ποσοτική ανάλυση δείχνει ότι το 74% των ερωτηθέντων ανέφερε αυξημένη εμπιστοσύνη στην ικανότητά του να λαμβάνει αποφάσεις υπό συνθήκες αβεβαιότητας, ως αποτέλεσμα της συμμετοχής του στο πρόγραμμα, ενώ η μεγάλη πλειοψηφία ανέφερε επίσης βελτιώσεις στην ικανότητά του να καθοδηγεί νεότερους ηγέτες και να λειτουργεί αποτελεσματικά σε πολυεθνικές ομάδες. Οι απόφοιτοι πολλαπλών μαθημάτων του προγράμματος ανέφεραν μια σαφώς αντιληπτή σωρευτική πρόοδο στα τέσσερα στάδια του προγράμματος. Η ποιοτική ανάλυση εντόπισε τρία επαναλαμβανόμενα θέματα σε όλο το πρόγραμμα: εκπαίδευση ηγεσίας, ευκαιρίες επαγγελματικής δικτύωσης και πρακτικές ασκήσεις βασισμένες σε ρεαλιστικά επιχειρησιακά προβλήματα. Αυτά τα θέματα παρέχουν πληροφορίες για πιθανές οδούς για την ενίσχυση τόσο της συνολικής αποτελεσματικότητας όσο και της χρησιμότητας του προγράμματος της Ακαδημίας Ηγεσίας NSOU.

Τα αποτελέσματα υποδηλώνουν ότι το Πρόγραμμα της Ακαδημίας Ηγεσίας NSOU διαδραματίζει σημαντικό ρόλο στην ενίσχυση της ανάπτυξης ηγεσίας σε ολόκληρη την κοινότητα των Ειδικών Επιχειρήσεων του NATO. Η μελέτη εντοπίζει επίσης ευκαιρίες για περαιτέρω βελτίωση του προγράμματος σπουδών του προγράμματος μέσω διευρυμένης βιοματικής μάθησης, ενισχυμένων δραστηριοτήτων πολυεθνικής συνεργασίας και συνεχούς ευθυγράμμισης με τις εξελισσόμενες απαιτήσεις επιχειρησιακής ηγεσίας.

Λέξεις – Κλειδιά

NATO, Πανεπιστήμιο Ειδικών Επιχειρήσεων, Δυνάμεις Ειδικών Επιχειρήσεων, Ηγεσία, Ακαδημαϊκό Πρόγραμμα Σπουδών

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List of Abbreviations & Acronyms

ACCET	Accrediting Council for Continuing Education and Training	NSHQ	NATO Special Operations Headquarters
ACO	Allied Command Operations	NSOU	NATO Special Operations University
ACT	Allied Command Transformation	NSTI	NATO Special Forces Transformation Initiative
ADDIE	Analysis, Design, Development, Implementation, and Evaluation	OF	Officer
ADL	Advanced Distributed Learning	OR	Other rank
Bi-SC	Bi-Strategic Command	PfP	Partnership for Peace
C2	Command and control	PME	Professional Military Education
CCD	Course Control Document	PO	Performance Objective
CJIATF	Combined Joint Interagency Task Force	PTEC	Partnership Training and Education Centre
CoE	Centre of Excellence	QA	Quality assurance
CSEL	Command Senior Enlisted Leader	QC	Quality control
CT	Counterterrorism	QM	Quality management
DH	Department Head	QMS	Quality management system
EU	European Union	RA	Requirements Authority
FRLM	Full Range Leadership Model	SACEUR	Supreme Allied Commander Europe
IMLC	International Mid-level Leader Course	SAT	Systems Approach to Training
ISNIC	International SOF NCO Integration Course	SHAPE	Supreme Headquarters Allied Powers Europe
JFD	Joint Force Developer	SMART	Specific, Measurable, Achievable, Realistic, and Timely
JIIM	Joint Interagency Intergovernmental Multinational	SOCOM	Special Operations Command
JSOC	Joint Special Operations Command	SOCC	Special Operations Component Command
JSOU	Joint Special Operations University	SOCEUR	Special Operations Command Europe
JTF	Joint Task Force	SOF	Special Operations Forces
MC	Military Committee	SOFCOM	Special Operations Forces Command
NAC	North Atlantic Council	SOTG	Special Operations Task Group
NCO	Non-Commissioned Officer	SOTU	Special Operations Task Unit
NCS	NATO Command Structure	STANAG	Standardization Agreement
NETF	NATO Education and Training Facility	STP	Strategic Training Plan
NFS	NATO Force Structure	SUMMIT-I	SUMMIT International
NRF	NATO Response Force	TNA	Training Needs Analysis
NSCC	NATO Special Operations Coordination Centre	TRA	Training Requirements Analysis

1. Introduction

Every year one of the most extraordinary academic events takes place. A large number of the most lethal warriors of the North Atlantic Treaty Organization (NATO) Alliance leave their organizations' normal training/deployment cycle to participate in the NATO Special Operations University (NSOU) Leadership Academy educational programme. Participants' ranks and organizational duties vary from junior officers and non-commissioned officers (NCOs), Special Operations Forces (SOF) operators at the tactical level, all the way up to executive level national SOF Commanders and Command Senior Enlisted Leaders (CSELs). This paper discusses the proposed master's in business administration (MBA) research project entitled "Assessing the North Atlantic Treaty Organization Special Operations University's Leadership Academy Programme" to establish that it is fit-for-purpose in building the future NATO Special Operations Forces nimble-minded warriors.

1.1 Background and Context

NATO Allied Special Operations Forces Command (SOFCOM) was founded originally on 07 January 2007 as the NATO Special Operations Forces Coordination Centre (NSCC). This was one of the results of the North Atlantic Treaty Organization – NATO Riga Summit in November 2006. In that summit the Heads of State endorsed the NATO Special Forces Transformation Initiative (NSTI): *"The adaptation of our forces must continue. We have endorsed a set of initiatives to increase the capacity of our forces to address contemporary threats and challenges. These include... The launch of a special operations forces' transformation initiative aimed at increasing their ability to train and operate together, including through improving equipment capabilities."* (NATO. "Riga Summit Declaration Issued by NATO Heads of State and Government, 2006).

On 1 March 2010, NSCC was transformed into the NATO Special Operations Headquarters (NSHQ) and took on an additional role as a backup operational SOF Command and Control (C2) element. This resulted in 2017 in NSHQ being the NATO Reaction Force (NRF) Special Operations Component Command (SOCC). Combining the normal role of a Headquarter – HQ with being the NRF SOCC created a huge challenge, and in 2018 in line

with the NATO Command Structure Adaptation, NSHQ moved away from this C2 role and became the Theatre SOF Component for the Supreme Allied Commander Powers Europe (SACEUR) in 2020.

In 2024, NSHQ was transitioned to the NATO Allied Special Operations Forces Command (SOFCOM). Its mission is to support the development of a ready and interoperable NATO SOF capability. SOFCOM is a Theatre Component Command (TCC), which means that it has the legal mandate to command and control of NATO's SOF, when approved by the Alliance. It has also the authority to write doctrine, to provide education and training, and to evaluate and certify NATO SOF forces as operation ready.

Its headquarters are inside the same base with the Supreme Headquarters Allied Powers Europe (SHAPE), in Mons Belgium. Both its Commander and Commanding Senior Enlisted Leader are Americans, and the Deputy Commander is British and it is under SACEUR's authority. Its members come from twenty-eight NATO member countries and two partners, Austria and Ireland (NATO, 2025).

NSOU is part of SOFCOM. It is located at Chievres Air Base, Belgium. It provides training and education for the development of SOF of NATO and Partner nations' SOF. NSOU is accredited from the NATO Allied Command Transformation (ACT), NATO's highest authority for individual education and training and from the United States' – US Accrediting Council for Continuing Education & Training (ACCET) (NSHQ, 2025).

In 2021 NSOU created the NATO SOF Leadership Academy for the professional development of both SOF Officers (OF, NATO rank abbreviations OF-1 thru OF-9) and Non-Commissioned Officers (NCO) (OR¹, NATO rank abbreviations OR-1 thru OR-9). Its curriculum focuses on the development of the Command Team² at every level of leadership. More specifically, Special Operations Task Unit (SOTU), Special Operations Task Group (SOTG), and Special Operations Component Command (SOCC), as well as Executive Leadership positions within the Alliance and NATO SOF entities. The education programme has four stages of progression, aligned with each of the leadership team levels.

¹ OR: Other Ranks.

² The "command team" is: "*a professional, loyal-based partnership between the Commander and Senior Enlisted Leader (NCO) on all levels of command (...) from platoon level organizations to the strategic command level. While the commander holds the official authority over a unit, Commanding Senior Enlisted Leaders/CSEs directly support the commander's intent, priorities and given tasks by the authority given by the Commander. CSEL ensures mission clarity to all unit members and provides the commander with direct feedback from the forces on all tasks*" (Scaparrotti and Mercier, 2017).

Some overlap of rank grades has been built-in throughout each course, and the programme is designed to accommodate different levels of standards and experiences across the NATO SOF Alliance. The four stages of the programme are:

- a. NATO SOF Junior Leaders Course – STEP 1 at the SOTU level and participants should be at the OR-4 thru OR-6 and OF-1 thru OF-3 rank levels.
- b. NATO SOF Mid-Level Leaders Course – STEP 2 at the SOTG level. Participants should be at the OR-5 through OR-6 and OF-3 through OF4 rank levels.
- c. NATO SOF Senior Leaders Course – STEP 3 at the SOCC level and participants should be at the OR-7 thru OR-8 and OF-4 thru OF-5 rank levels.
- d. NATO SOF Executive Leaders Course – STEP 4 for the executive level, i.e. National or Allied Joint Special Operations Commands (JSOCs) and Special Operations Commands (SOCOMs). The participants should be at the OR- 9 and OF-6 through OF-9 rank levels.

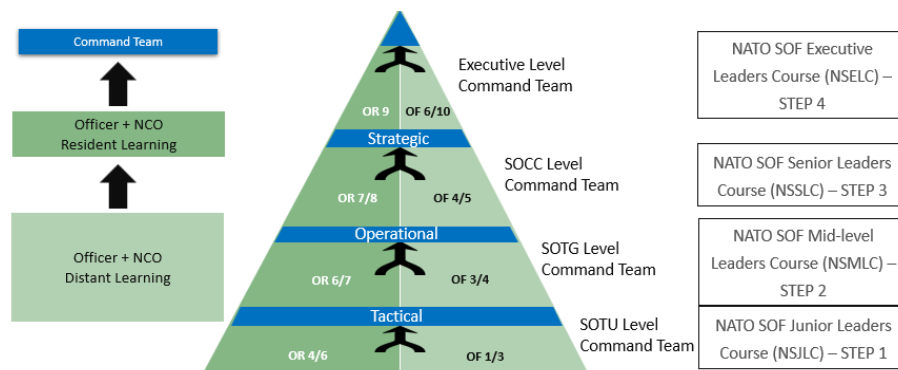


Figure 1: Leadership Academy's Academic Program Overview

All four courses have a similar delivery format. A distance learning phase of asynchronous participation in several modules via the university's advanced distribution learning (ADL) platform and a residential in classroom phase.

I was a member of the development team of the programme, and I am also a faculty member with the duties of course director and instructor with several hundred graduates to this day. Furthermore, I have served as a SOF Operator in the Greek Army SOF for over 26 years and I have a personal investment to prepare the Hellenic, Allied, and Partners SOF community for future operations.

1.2 Research Aims and Objectives

Although the Leadership Academy programme was designed for the leadership development of NATO SOF, there has been no empirical research assessing its effectiveness. Existing professional military education programmes within NATO do not intergrade officers and non-commissioned officers within a single structured leadership development educational pathway. This study addresses this research gap by empirically assessing the Leadership Academy's programme influence on SOF leaders and examining whether its curriculum provides a fit-for-purpose and cumulative leadership development structure across its four course stages.

The modern battlefield is increasingly characterised by volatility, uncertainty, complexity, and ambiguity. Modern strategic studies are using the acronym VUCA to describe such an environment (Bennett & Lemoine, 2014). NATO Special Operation Forces play a critical role in all national and Allied security frameworks and occupy a unique position in national and Allied security constructs. They have the ability to operate in political sensitive environments, below the threshold of open conflict, something that emphasises their relevancy, especially in our era of increasing hybrid threats. SOF specialise in missions requiring precision, adaptability and discretion and their high level of training allows them to – despite their small size – to be strategic instruments and accomplish strategic effects that would otherwise require a much larger military involvement.

The NSOU Leadership Academy was created to provide structured leadership development on the men and women of the NATO SOF community that will allow them to fulfil their missions by achieving cognitive superiority over their adversaries. An empirical evaluation of this programme is necessary to assess whether it effectively prepares SOF leaders to operate within this VUCA context. This research will assess these questions and additionally; it will address its organizational impact.

1.3 Research Questions

This mixed method study will address to what extent the NSOU Leadership Academy Programme influences the graduates' individual leadership identity. Furthermore, it will explore if there is a statistically significant relationship between participation in the programme and the graduates' perceived leadership effectiveness and organizational impact

in their operational units. Finally, it will examine how do multi-course graduates perceive the consistency and cumulative logic of the curriculum across the four course stages.

Qualitative and quantitative data for this research will be collected at the same time, they will be analysed separately, and finally they will be combined, following a convergent mixed-methods design. The qualitative data will be used to test the theory of full range leadership model (FRLM) that predicts that there are 3 levels of leadership effectiveness. The level of visible skills and competences, a deeper less visible level of leadership mental structures where the process of leader identity formation, self-regulation motivates, and leadership skills development takes place, and a third invincible level though that the leader's conscious and unconscious development procedure happens (Day & Hammond, 2011). Exploring if and how these leadership traits are influenced by the Leadership Academy programme will influence positively the leadership skills of the participants

The open-ended questions in the survey questionnaire will explore participants' real-life application of the learned skills, if they identify any gaps or redundancies in the curriculum, what aspects of the programme are considered most valuable, and any proposed improvements to better meet programme's objectives. The reason for collecting both quantitative and qualitative data is to develop a better understanding of the research problem by converging and comparing the two databases.

1.4 Significance of the Study

The aforementioned programme is the only one that combines education of Special Operations Officers and Non-Commissioned Officers, in the Alliance. The researcher was part of the team that built it using the Analyse, Design, Develop, Implement, and Evaluate (ADDIE) model and teach it in both the roles of the educator and of the programme manager. Getting this programme right and keeping it, fit-for-purpose is paramount, especially considering that it is the paradigm that NATO members and partner nations are following to build their own national SOF professional development programs.

1.5 Structure of the Dissertation

After this introduction will be a review of the current literature, followed by an analysis of the data collection and analysis methods. After that, there will be a presentation of the

findings, followed by discussion on the interpretation of the findings and the research's final conclusions and recommendations.

2. Theoretical Foundations, Curriculum Review, and the International SOF Training Landscape

From a curriculum provider point of view, five levels of curriculum design can be identified in practice: supra, macro, meso, micro, and nano (Priestley, 2019 & Priestley et al., 2021).

At the supra level there is an international perspective of curricula design, with a transnational horizon. It offers a common framework for relations and transactions that occur in this international educational framework and enables common ideas and values to transude through education to the next level of curricula, within national education jurisdictions. Curriculum at this level has two ingredients. Firstly, the results of the “dialogue” between education and society form what is called “ideal” or “abstract” level. Secondly, the translation of policy into instruments of education informs the “analytical” or “formal” level (Priestley et al., 2021).

Macro is the next curriculum design level. This is often at the national level of curriculum, but not always, because its actors can be simultaneously involved at a higher (supra) or lower (regional) levels of curriculum. Curriculum building at this level contains two processes. Firstly, forming the ideal or abstract that provides a narrative framing, shared goals, and educational ideals and expectations and secondly, the creation of curriculum situated between the policy and classroom levels (Priestley et al., 2021).

Meso level of curriculum design refers to the school or institute level of educational programme. It sits between the production of curriculum design policy (macro) and practice (micro) levels, forming the pedagogic/andragogic re-contextualization field, where policy transforms into action (Priestley et al., 2021).

Micro level of curriculum design sits at the classroom/teacher level. It takes place in schools and sits external to classrooms, although connected. In this level, national level programmes are transformed by the teachers/educators into pedagogical/andragogic ones. These programmes are affected by their own beliefs and by their institutional culture and available resources (Priestley et al., 2021).

Nano level of curriculum design resides in the social practice/activity from teachers and students’ interaction, aiming to achieve curriculum’s goals (Priestley et al., 2021).

This chapter includes an analysis of the leadership development in military context, the existing professional development courses for NATO SOF, and NATO's approach in curriculum design. Additionally, it includes a critical interpretation of how these five levels of curriculum design fit into NATO's approach to curriculum design.

2.1 Leadership Development in Military Contexts

The three organizations within NATO that offer education related courses are the NATO School Oberammergau in Germany, the Baltic Defence College in Estonia, and the NATO Defence College in Italy.

A. NATO School Oberammergau (NSO) offers the following courses on leadership (NSO, 2026):

1. NATO Senior Officer Policy Course – SOPC. This is an Officers only course (OF-5 thru OF-9) – or their civilian equivalent – that serve in a NATO position and require an understanding of NATO strategy and policy issues in their daily duties. The course aims *“to present them with the key factors, concepts and principles of NATO's current and future security environment while providing insight into the strategies and policy of the Alliance”*. Its learning objectives according to NSO (2026) are:

- “a. Identify current and potential security issues that affect NATO security.*
- b. Extrapolate the threats and opportunities that affect policy decisions within the NATO Alliance.*
- c. Summarise the facts, terms, concepts and principles of the contemporary security environment and its implication for NATO.*
- d. Comprehend the relationships that affect the capabilities of the NATO Alliance.”*

2. NATO NCO Intermediate Leadership in a Multinational Environment. This course is for NCOs only (OR-6 thru OR-7). It aims to: *“develop leadership skills within a NATO multinational environment”*. Its learning objectives (NSO, 2026) are:

- “a. Describe NATO organization and structure in accordance with NATO Handbook Ed. 2006.*

b. Describe the tools, programs, and resources to most effectively perform his/her duties.

c. Demonstrate the ability to clearly communicate information in accordance with established NATO guidance.

d. Explain the significance of cultural diversity its impact in the international environment.

e. Explain the current issues facing NATO and its partners.”

3. NATO Command Senior Enlisted Leader (CSEL) Course. This course is for NCOs only (OR-9) who are currently or are preparing to be assigned to a NATO CSEL appointment. It aims to prepare NATO command and NATO forces CSELs on how to carry out their duties and responsibilities. Its learning objectives (NSO, 2026) are:

“a. Lead NCO professional development programs in accordance with ACT and ACO directives.

b. Prepare a NATO ceremony in accordance with NATO COMMANDERS Guidance for Protocol 2010.

c. Effectively present a formal briefing in accordance with CFC 98055000 Communication Skills and Staff Duties.

d. Describe the roles, authorities, and expectations of the CSEL within the HQ staff in accordance with NATO policy and doctrine.

e. Effectively demonstrate the ability to provide advice to commanders.”

4. NATO NCO Advanced Leadership in a Multinational Environment. This course is for NCOs only (OR-8 thru OR-9). It aims to develop leadership skills within a NATO multinational environment. Its learning objectives (NSO, 2026) are:

“a. Describe NATO organization and recent operational experiences.

b. Apply the DISC framework in accordance with DISC manuals.

c. Explain the myriads of leadership challenges and ethical dilemmas in NATO as they relate to a multiracial, multicultural, and multigender force.

d. Explain the NATO Bi-SC Directive governing NCO development with NATO in accordance with NATO NCO Bi-SC strategy.”

Considering all the above, we can see that NSO leadership or leadership-related courses do not have special operation forces (SOF) oriented curriculum, since they were designed for the conventional non-commissioned personnel's education and training. In fact, some of its learning objectives (i.e. ceremonies' direction) are mundane in nature and contradict with the strategic role of SOF mission in the Alliance. Furthermore, all four courses are addressed to only one of the two categories of military personnel (i.e. to officers or non-commissioned officers only). Finally, no course appears to have learning objectives directly related to leadership theories or leadership development.

B. The Baltic Defence College (BDC) offers the following leadership courses (Baltic Defence College, 2025):

1. Command Senior Enlisted Leaders' Course. This course is for NCOs only (OR-9) who are assigned, or projected to be assigned, to a NATO CSEL appointment. It aims to: *“provide Command Senior Enlisted Leaders with the knowledge that will enable them to advice, support, and enhance strategic level leadership’s decision-making process to meet anticipated challenges”* (Baltic Defence College, 2025).

2. Senior Leaders' Course. This course is for officers only (General/Flag Officer level, OF-6 and above). The course facilitates the participants’ understanding of contemporary regional issues while allowing them to enhance and sustain a comprehensive network among allies and partners. Its learning objectives (Baltic Defence College, 2025) are:

a. Formulate strategic responses to the challenges and threats to the interests of their respective nations.

b. Assess the North Atlantic Treaty Organisation’s evolving geostrategic role in deterring challenges and threats to its members.

c. Appraise the principles of deterrence in light of the changing geopolitical environment.

3. Professional Master's Degree. This is a course for officers only (OF-3 and above) holders of Bachelor degrees. It is a master's degree in military Leadership and Security – a programme offered by the National Defence Academy of Latvia (Baltic Defence College, 2025).

In the Baltic Defence College courses, we see the same trend continuing. The courses are offered separately to officers and NCOs. The first two courses do not appear to have learning objectives directly related to leadership. The professional master's degree could have such learning objectives but, as the curriculum is not posted online, it is not possible to identify them. Furthermore, the course is also offered only to officers of a certain (mid-level) rank range and higher ranks.

C. NATO Defence College (NDC) offers two courses on leadership:

1. Generals, Flag Officers & Ambassadors' Course (GFOAC). Students are General officers and high-ranking diplomats, and the course aims to build relationships and network amongst participants and to enhance their understanding of NATO's security concerns and capabilities (NATO Defence College, 2025).

2. The Senior Course. This course is offered only to General Officers and civilian diplomats of equivalent ranks (OF-6 and above). Students are participating in three visits to NATO nations' capitals and headquarters with the goal for the course members to understand how the nations make policy (NATO Defence College, 2025).

These two courses do not appear to have learning objectives directly related to leadership and are offered only to officers.

2.2 Professional Development Programmes for Special Operations Forces

There is only one other academic institution in NATO that provides professional development programmes for SOF personnel, other than NSOU's Leadership Academy. It is the Joint Special Operations University (JSOU), in Tampa USA. JSOU offers the following leadership-related courses, open to non-US students (JSOU, 2025):

1. Combined/Joint Force Special Operations Component Commander (C/JFSOCC). It is intended for US and non-US SOF Officers at the rank of Brigadier (OF-6) and above, along with equivalent level civilians. The course focuses on develop to the participants an understanding of the complexities of SOF operations in a joint, interagency, intergovernmental, and multinational (JIIM) environment.

2. Joint Special Operations Forces Senior Enlisted Academy (JSOFSEA). It is offered only to senior NCOs (OR-8 through OR-9). It is designed to enhance participants' critical thinking, as they grow they transition in the operational and strategic levels, and their knowledge and experience to successfully lead in the JIIM environment.

Both courses' learning objectives lack a clear connection with leadership theory and are offered separately, to officers and NCOs only, respectively.

Research gap and study justification.

The review provided in sub-chapters 2.1 and 2.2 identified a deficiency in the NATO professional military education (PME) regarding leadership development: there are no comprehensive rank-neutral, leadership training programmes available that would allow both Officers and NCOs to be educated/trained together, both inside and outside of the SOF framework. In addition to the absence of such programmes, all NATO principal educational institutions (NSO, BDC, NDC) and the only NATO accessible SOF professional development institution (JSOU) offer some type of educational opportunity related to leadership; however, all have their educational offerings restricted to specific ranks or do not have a specific focus on leadership theory and do not present a common learning path for both officer and NCO participants.

The operational implications of this educational gap are generated from the reality that the effectiveness of SOF relies heavily upon a well-coordinated and integrated Officers-NCOs relationship and a common understanding of their roles as leaders at all levels (tactical, operational, and strategic) in joint, interagency, intergovernmental, and multinational (JIIM) environments. Therefore, the fundamental rationale for this research effort was to assess whether the NSOU Leadership Academy's curriculum addresses this educational gap as a result of its intent to use the same curriculum to educate both Officers and NCOs participants and whether the results of the assessment of the programme are consistent across both participant groups.

2.3 Curriculum Design and Coherence in Military Education

According to Article 3³ of the Washington Treaty⁴ (The North Atlantic Treaty, 1949), each NATO member is responsible for providing its own forces with national education and training (E&T). When serving in a NATO organization or participating in a NATO mission, those individuals and forces often require additional E&T that will allow them to be able to work together with forces from different nations and E&T backgrounds, in the NATO environment. NATO provides this individual and collective training through various NATO Education and Training Facilities (NETFs)⁵. Allied Command Transformation (ACT) is responsible for the coordination and management of that education and training through global programming. Global programming's aim is to “*ensure the right E&T is provided to the right personnel, at the right time and location, in the most economical manner possible*” (Bi-SC 75-7, p. 11).

To enable this defined structure for all NATO approved bodies of knowledge and skills, multiple disciplines were created. Each discipline outlines an existing or evolving E&T requirement. Their role is to categorize, capture, and manage the requirements that become the basis for E&T solutions. Every discipline has its own governing structure. The lists of disciplines are approved annually by the military committee (MC), the senior military authority in NATO. It is the primary source of military advice to the North Atlantic Council (NAC), and gives direction to the two Strategic Commanders, Supreme Allied Commander Europe (SACEUR) and Supreme Allied Commander Transformation (SACT). Nations participate in it with their permanent military representatives or with their Chiefs of Defences (CHODs). MC is responsible for translating political decisions and guidance into military direction, and for recommending necessary measures for the protection of the

3 “*In order more effectively to achieve the objectives of this Treaty, the Parties, separately and jointly, by means of continuous and effective self-help and mutual aid, will maintain and develop their individual and collective capacity to resist armed attack.*” (The North Atlantic Treaty, 1949).

4 On April 4, 1949, representatives of the United States, Canada, and 10 Western European nations met in Washington, DC, to sign a mutual defense pact against possible aggression from the Soviet Union. The treaty formed the legal basis of the North Atlantic Treaty Organization, or NATO. The U.S. National Archives holds the original treaty and subsequent ratifications. (North Atlantic Treaty, 2024).

5 The 8 NETFs are: the NATO Defense College (NDC) in Rome Italy, the NATO School in Oberammergau (NSO) in Germany, the NATO Maritime Interdiction Operational Training Centre (NMIOTC) in Souda Bay Greece, the NATO Communications and Information (NCI) Academy in Oeiras Portugal, the Joint Warfare Centre (JWC) in Stavanger Norway, the Joint Force Training Centre (JFTC) in Bydgoszcz Poland, the Joint Analysis and Lessons Learned Centre (JALLC) in Lisbon Portugal, and the NATO Special Operations University (NSOU), in Chievres Belgium (NATO, 2025).

NATO area and the implementation of decisions regarding military operations (NATO, 2017). One of the disciplines in NATO is Special Operations⁶.

Each discipline creates its own strategic training plan (STP), approved by NAC, and followed by a training requirements analysis (TRA). TRA's purpose is to analyse the discipline's known current education and training requirements and review the currently existing training available to satisfy those requirements. Where there is a gap, a training needs analysis (TNA) will be conducted to deliver a solution (NATO, 2023).

Every year an annual discipline conference (ADC) takes place, where all involved parties meet to identify new requirements and issues and review the available education and training. At the end of the ADC, the discipline's alignment plan (DAP) is published.

Global Programming identifies three key roles. The joint force developer (JFD), the requirement's authority (RA), and the department's head (DH). JFD supervises DH and is overall responsible for the management of global programming. RA defines educational and individual training requirements. DH runs the ADC, delivers the DAP, and coordinates solutions delivered by the NATO Education and Training Facilities (NETFs), Centres of Excellence (CoE)⁷, and Partnership Training and Education Centres (PTEC)⁸, supporting them with subject matter experts (SMEs) (NATO, 2014 – MC0458/3).

The foundational policy defining documents that shape global programming are in descending order:

1. MC 458/3, Education, Training, Exercise, and Evaluation Policy. Here MC establishes the policy framework which governs NATO's education and training (NATO, 2014).
2. Bi-SCD 75-2, Education and Training (E&IT) Directive. With it, the Bi-Strategic Commands (Bi-SCs) ACT and Allied Command Operations (ACO) interpret the MC's policy and produce unified direction (NATO, 2016).

6 For 2025, MC acknowledges 28 disciplines: Air Operations, Land Operations, Maritime Operations, Space, Special Operations, Cyberspace Operations, Consultation - Command and Control, Business Continuity Management, Information and Knowledge Management, Counter-Terrorism, Education Training Exercise and Evaluation, Operational Planning-Operational assessment and Alternative Analysis, Weapons of Mass Destruction/ Chemical-Biological-Radiological and Nuclear Defense, Counter-Improvised Explosive Devices, Logistics, Medical Support, Military Engineering, Energy Security, Strategic Communication, Integrated Air and Missile Defense, Intelligence, Joint Targeting, Military Policing, Nuclear Operations, Building Integrity, Civil Military Cooperation and Civil Military Interaction, Gender in Military Operations, and Military Contribution to Peace Support (NATO, 2025).

7 CoEs are not part of NATO Command structure; however, they must follow ACT's guidance and must conform to NATO procedures, doctrines, standards and security policies (NATO, 2025).

8 As of 2025, there are currently 36 PTECs (Partnership Training and Education Centers, 2024).

3. Bi-SCD 75-7, Education and Individual Training Directive and Bi-SCD 75-3, collective Training and Exercise Directive. ACT and ACO aim with these to define the processes and products supporting individual or collective education, training, and exercises, respectively (NATO, 2025).

All NATO's E&IT solutions are determined through a requirements' driven approach. Those requirements are performance and production related. Performance requirements define what a trainee will be prepared to do and at what level. Production requirements define the number of personnel to be educated or trained, for the performance requirements, within a defined time period, to be met.

As specified in Bi-SCD 75-7, there are three categories of course certification in NATO:

- a. Listed courses are courses that meet national E&IT requirements and often support broader capacity building objectives but don't align with a NATO E&IT requirement.
- b. Selected courses are courses that meet a NATO E&IT requirement, however the education facility providing the solution is not accredited by ACT.
- c. Approved courses are courses that both meet a NATO E&IT requirement and are delivered by an education facility accredited by ACT. These courses are also called NATO-provided. The NSOU Leadership Academy's programme belongs to this category, as the University is ACT accredited and meets multiple NATO's education and individual training requirements.

In order to assure the quality of delivery for E&IT solutions, NATO has established a Quality Management System (QMS). NATO's QMS has four dimensions (Bi-SCD 75-7):

- a. Inspection, aiming to identify and correct errors. Its main tools are inspection of educational facilities, instructors' assessments and corrective actions during course delivery.
- b. Quality Control (QC) consists of students' evaluations, feedback from stakeholders, and corrective actions after course delivery.
- c. Quality Assurance (QA) focuses on the overall quality and aims in preventing errors and defects. It includes internal evaluation of processes and procedures, staff selection and orientation, and performance indicators' analysis.

d. Quality Management (QM) emphasis is on meeting the needs of the customers (students). It examines all aspects related to quality and develops procedures to establish continuous improvement.

Every NETF has gone through an institutional accreditation procedure, in which it has proved itself to have an effective QMS and also provided evidence of its contribution to NATO. After that, ACT will have offered accreditation for a specific period of time (3-5 years is the norm), after which period the NETF will be re-accredited. NSOU has been re-accredited by ACT in 2022, for a period of five years (until 2027).

After a TRA has identified a performance gap and a TNA has been conducted to deliver a solution, the NATO systems approach to training is implemented. It consists of five distinct phases and is also known as Analysis, Design, Development, Implementation, and Evaluation (ADDIE) model (Bi-SCD 75-7). NSOU Leadership Academy's programme creation was based on ADDIE model, the visual analysis of which you can find in the next figure:

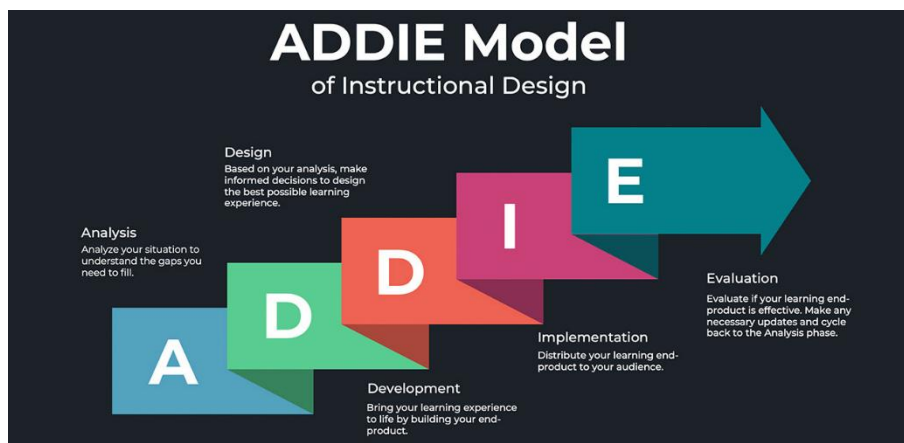


Figure 2: The ADDIE Model⁹

In the analysis phase clear Performance Objectives (POs) are created to address the necessary on-the-job performance requirements for NATO positions or operations. Its final product is a course control document (CCD) which outlines a broad training strategy and the intent for a proposed educational solution.

Design phase creates or selects an educational solution which will enable participants to achieve the specified POs. It results in the production of another CCD which defines in

⁹ <https://waterbearlearning.com/addie-model-instructional-design/>

detail the instructional strategy supporting the educational solutions, i.e. content, andragogy, and assessment.

Development phase produces or procures the materials and services needed to support the delivery the educational solution. It results with the production of a courseware which is defined during the design phase and is described in the CCDs.

Implementation phase includes the operation and management of the support and administrative functions necessary to successfully conduct the educational solutions. Those solutions require planning, preparation, execution and after-action reviews and result with the production of qualified graduates.

Once the educational solutions have been implemented, the evaluation phase assesses their efficiency and effectiveness and determines how it can be improved. This phase closes the NATO's systems approach to training loop and determines whether a specific educational solution has satisfied the performance objectives as defined in the analysis phase.

2.4 Theoretical Frameworks on Leadership Effectiveness and Identity

How can someone measure leadership effectiveness? In this paper the author will argue that the main leadership effectiveness model used for this research will be the “full range leadership model” – FRLM, as it can provide reliable and validated framework that allows the measurement of leadership effectiveness by the mixed methods analysis of behavioural constructs (qualitative analysis) and numerical scores (quantitative analysis). A detailed analysis of the questionnaires structure will be conducted in Chapter 3.

The full range leadership model (FRLM) - also referred to as full leadership development: It is a holistic system that offers a systematic approach and a measurable framework for measuring leadership's effectiveness (Avolio, 1999). It addresses leadership as something more than individual traits or organizational processes, but rather as the development of wide range of competencies. According to Day & Hammond (2011), there are 3 levels of leadership effectiveness. The first is the visible (surface) level of visible skills and competences. It is supported by a deeper less visible (meso) level of leadership mental structures where the process of leader identity formation, self-regulation motivates, and leadership skills development takes place. It is the third invincible level though that the

leader's conscious and unconscious development procedure happens. The following figure provides a graphic representation of these levels:

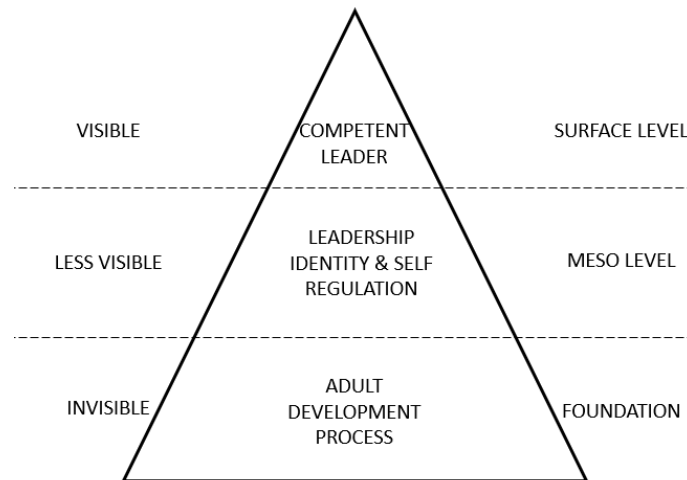


Figure 3: Day & Hammond's Levels of Supporting Processes in Leadership Development¹⁰

The FRLM comprises an extensive variety of abilities and knowledge. To be able to master the FRLM, education/training in the following fields is required (Avolio, 1999 & Antonakis et al., 2003):

- a. Self-awareness: understanding one's own behavioural style. The programme uses personality type's models in order to develop self-awareness in students and trainees throughout the NSOU programmes (<https://www.everythingdisc.com/>, <https://www.myersbriggs.org/my-mbti-personality-type/myers-briggs-overview/>, <https://www.16personalities.com/>) with NSOU faculty members trained by these organisations as instructors/trainers.
- b. Emotional awareness: The curriculum includes emotional intelligence, which is crucial for all aspects of SOF activities.
- c. Communication and interpersonal skills: The curriculum cover communication strategies, negotiation techniques and public speaking.
- d. Team building – team management: The above-mentioned topics are also included within the curriculum of the NSOU programme; both theoretically, as well as practically, and the emphasis on the development of a team, motivating team members, developing teamwork, and delegating tasks and authority.

¹⁰ <https://doi.org/10.4324/9780203809525>

e. Strategic thinking: The curriculum covers the Meinhart's strategic thinking model (Meinhart, 2011) – a strategic thinking model used at the US Army's War College. The strategic thinking is built on three basic components as foundation: "Know yourself", "Know the other" and "Reflect" and five strategic thinking lenses are used to analyse strategic thinking: "Creative thinking", "Critical thinking", "Systems thinking", "Ethical thinking" and "Thinking in Time". In the following figure the reader can see the model's graphic representation:

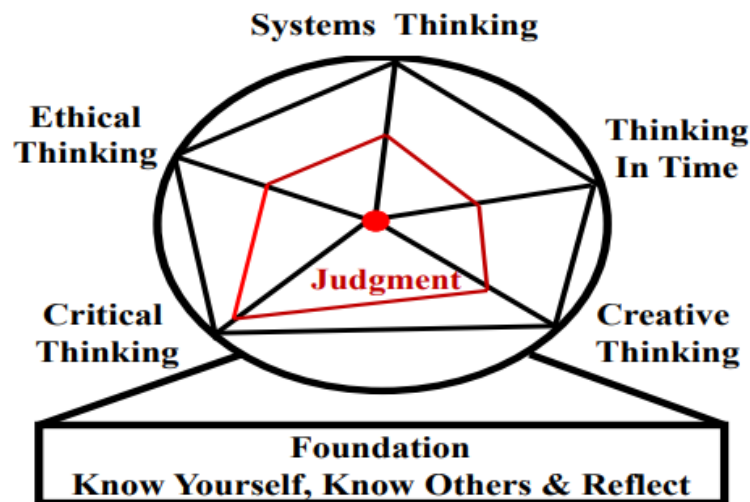


Figure 4: Meinhart's Strategic Thinking Model

f. Change management and innovation: The programme includes business and NATO's transformation theories and techniques, as well as innovation.

g. Ethical leadership: This is included in the curriculum, as part of the strategic thinking model.

FRLM shows that leadership identity is relevant to leaders' development as it helps them define who they are, what are their aspirations and goals as well as realizing their own strengths and weaknesses. It is a key aspect of the individuals' motivation process for seeking developmental opportunities for their leadership skills and competencies.

What theory can define leadership identity and the psychological mechanisms that underpin its development, in a military SOF context, and what are its relationship to professional military education for NATO SOF?

Social identity theory: It is a leadership theory that addresses the leaders' identity formation mentioned above. According to Ashforth and Mael (1989), individuals tend to classify themselves into various categories, such as gender, age, or in our research into officers and

NCOs or SOF and conventional forces (non-SOF) personnel. This classification serves two functions. Firstly, it allows segmenting and ordering the social environment, and it can provide a definition of who the “others” are. Secondly, it allows to define our social identity: what is “me” and who are “us” (Ashforth & Mael, 1989).

When a category of self-conception is perceived by that person as positive, that individual invests more in that role/persona. Similarly, teams that share a common group identity perform better. This means that the leaders of those teams need to assist its members to think collectively, encouraging thus the idea of “we” versus “I”, in order to improve performance via team cohesion. Furthermore, when a person classifies him/herself as a leader, his/her sense of self is shaped by that role. This is influenced by how being a leader is central to his/her self-concept (Ashforth & Mael, 1989; Hogg, 2016).

The above means that, according to the leader identity transfer model (Rolf & Schuh, 2010), leaders that are highly identified in their organizations have a positive influence in raising their followers’ organizational identification and subsequently, their performance. In the researcher’s view, the social identity theory is very useful in the context of professional military education for NATO Special Operations Forces, as it provides a theoretical framework that connects leadership with the creation of shared identity inside NATO SOF. This is particularly useful in this multinational, multilingual and multicultural environment of the alliance, in comparison with national frameworks where a common national sense of belonging already exists.

Social identity theory will inform the questionnaire as there is a need to investigate how the Leadership Academy programme influenced participants’:

1. Understanding of their role as leaders.
2. Personal leadership philosophy.

According to FRLM, leadership effectiveness is based on selective adaptation and transformation. More specifically, individual differences in selection, optimization, and compensation play a very important role (Day & Hammond, 2011). In the following paragraphs, we will present three theories (situational, transformational, and authentic leadership theories), which deal with these aspects of adaptation and transformation.

Situational leadership: This leadership theory focuses on how the followers’ characteristics determine the optimal leaders’ behaviour. Its importance lies in the fact that it provides a roadmap on how the military leaders can adapt their leading style as their subordinate SOF

operators are progressing through their development levels as they gain experience. It identifies two pairs of followers' characteristics, able – unable and willing – unwilling, and categorizes them into four groups that require a different style of leadership from the leader (Daft, 2014, p. 71):

- unable & unwilling
- unable & willing
- able & unwilling
- able & willing.

When the followers are unable and unwilling, which in military context aligns with people just entering the military service out of necessity (for example due to mandatory conscription or professional personnel that seek only professional and financial stability, without the will to serve), the military leader must adapt a “telling” leadership style. This is a very directive style of leadership where the leader gives exact directions on how every task needs to be accomplished. This style has a high concern for tasks and low concern for people and team relationships (Daft, 2014, pp. 71-72).

As the military personnel pass through that initial shock of basic training, an initial sieving takes place. Some drop out of service, and the rest adapt (willingly or by persuasion) into this new military reality and mentality. This means that in general now they are willing but unable, as they lack training and experience. This requires for their military leaders to adopt a “selling” type of leadership. This style shows high concern for both tasks and team relationships as the leader, after issuing tasks and orders, provides his/her subordinates with a chance to ask questions in order to clarify further the tasks at hand (Daft, 2014, p. 72). This is usually the period that military personnel volunteer to go through Special Forces selection, followed by a period of intense advanced operational training (generally known as qualification or “Q” Course)¹¹. At the back end of that period, and provided that they passed both, the graduates are considered “badged” SOF operators, ready to participate in SOF missions.

¹¹In some nations and/or SOF Units, these two separate course/periods are merged into one that includes both selection and qualification. The timeframe of that selection & qualification period also varies amongst nations, Units, and military occupational specialties - MOSs. In peace time, it can be as short as 6 months or it can take several years. During major conflicts, like the Russian invasion to Ukraine, SOF organizations' (Ukrainian SOF in this case) selection and qualification process can be shortened, due to the high tempo of operations and the subsequent personnel losses that create a need of process' acceleration.

After this training period, the military personnel are able to perform their duties. Still there are some who are unwilling or insecure to do that and some others that are willing and confident. For the former (able but unwilling) their leaders should use a “participating” leading style. In order to generate confidence and interest, the leader shares ideas with the followers, inspires participation and facilitates decision making (Daft, 2014, p.72). This style shows high importance in team relations and low in task behaviour. It goes without saying that this style is suitable only for leading in peace time, as during operations it is impossible to be used due to time constrictions.

For the fourth personnel category (able and willing), a “delegating” leading style is adopted. The leader shows little concern for both tasks and relationships, as there are an already established team “spirit” and decisions and their implementation has been delegated to followers (Daft, 2014, p.72). This is the highest level that SOF personnel can reach and in a “perfect world”, they should have absolute priority for future military rank promotions. You can see a visual depiction of the situational leadership model in the following figure:

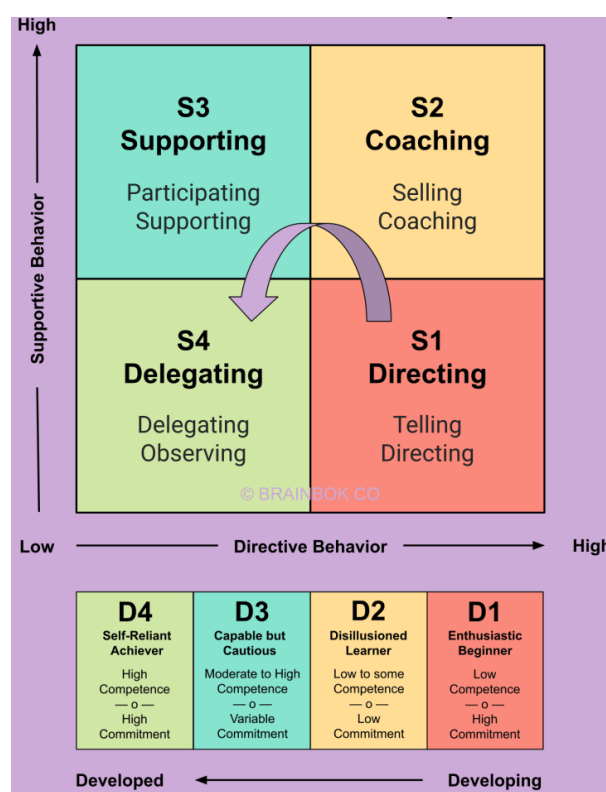


Figure 5: Situational Theory¹²

As mentioned above, situational theory’s importance lays in the fact that it provides a framework on leadership style adaptation according to the development of the subordinates.

¹² <https://www.brainbok.com/guide/pm-study-notes/ken-blanchard-s-situational-leadership-ii-model/>

This is critical for all SOF leaders and especially for the SOF Command Teams. As subordinates progress, so must the Commander's and CSEL's leadership styles. From personal experience, both during the researcher's military career and instructional experience in NSOU's Leadership Academy, that is not always clear to military leaders. Many tend to stick to their previous leadership style, which was proven successful in their previous rank or organizational level, without realizing the need for adaptation and development of their leadership styles. This leadership theory will inform the questionnaire as there is a need to investigate how the programme influenced participants':

1. Understanding of their role as leaders.
2. Personal leadership philosophy.
3. Confidence in their own leadership abilities.
4. Ability to make decisions in volatile, uncertain, complex, and ambiguous environments.
5. Ability to successfully mentor and develop their subordinates.

The transformational leadership theory: is the third theory we will mention in this paper that provides explanation on leadership's adaptation and transformation according to the full range leadership model. It is based on the leader's personal power, rather than on his/her position of authority. This theory transients the traditional military command structure and is marked by the leaders' ability to bring about considerable change to both the organizations and their subordinates. Rather than using the established rules, regulations, and incentives, transformative leaders use intangible qualities such as shared vision and values to build relationships and enlist followers for the organization's changing process (Daft, 2014, p.356).

This theory has four key characteristics (Daft, 2014, p.357). Firstly, it develops followers into leaders. This is very important in the military and especially important in SOF personnel, as by definition they operate for prolonged periods in remote areas, away from the direct control of their chain of command, and they conduct tactical missions to achieve strategic effects (AJP 3-5, 2013, pp. 1-1 & 1-2). This means that at any given moment every SOF operator may be called to show quality in leadership and make a decision that will have severe effects on his/her nation and the Alliance.

The second characteristic is that a transformative leader elevates subordinates' concerns from Maslow's hierarchy of needs, from lower physical needs – such as safety and security – to level psychological needs, like self-esteem and self-actualization, in creating job satisfaction and self-fulfilment of the employees, as strong motivators (Daft: 2014, p.357 & Mihiotis, 2016, pp.77-79). The next figure presents Maslow's model:



Figure 6: Maslow's Hierarchy of Needs¹³

The third characteristic is that it inspires followers to transcend their self-interest, for the good of the group. This is very important for SOF Command Teams, both in peacetime – but more importantly – during military operations. It is a self-evident axiom that every living thing has a survivor instinct. This means that above every other priority, survival is imperative and inscribed in its DNA. All military personnel by definition can be in risky situations and hostile environments. SOF operators face an additional layer of danger as they conduct operations in uncertain, hostile, and politically sensitive environments, often behind enemy lines, using clandestine or covert capabilities to achieve their missions (AJP-3.5). SOF command teams – SOF operators' chain of command – should be able to inspire their troops to transcend that primordial “programming” and put their life and limb at risk, to achieve their missions.

The fourth characteristic of a transformative leader is that it presents a vision of the desired future state of the organization and communicates it in a way that makes the “trouble” of change worth the effort (Daft, 2014, p.357). This final trait is the trademark of great military reformers.

The transformational leadership theory will inform the questionnaire on how the programme influenced participants:

¹³ <https://www.simplypsychology.org/maslow.html>

1. Understanding of their role as leaders.
2. Personal leadership philosophy.
3. Ability to successfully mentor and develop their subordinates.

Authentic leadership: The last theory we will present is the authentic leadership. According to George and Ibarra (2018), authentic leaders develop a sense of self-awareness and are practicing constantly their values and principles. They exhibit purpose and they strive to develop and discipline themselves. They use techniques like active listening when addressing their subordinates as a method that allows them to learn from them (George & Ibarra, 2018, pp.3-4). The importance of this theory lies in the fact that it proposes a scientific framework that explains both the values that we traditionally consider to govern military leaders, such as persistence in the mission and self-discipline, but at the same time offers a roadmap of behaviour capable to improve both their level of leadership and of methods to include their subordinates in their decision-making process, with the goal of improving them.

SOF operations are typically conducted in VUCA environments, with small teams operating decentralised with autonomy and their leaders making decisions - with potential strategic implications - under pressure and frequently with limited available information. Subsequently, the above-mentioned leadership approaches that rely heavily on hierarchical supervision of formal authority over rigid procedures may be less effective in the Operational context of SOF.

In a joint, interagency, intergovernmental, and multinational (JIIM) environment, such as the modern NATO SOF operations take place, these challenges are increased from the diversity of national cultures, doctrines, and policies. In such settings, leadership effectiveness depends not so much in formal command and control authorities but rather on trust based on interpersonal credibility and the leaders' ability to align towards the desired common objective, their diverse team. Such operational context makes Authentic Leadership particularly relevant.

This theory can inform the questionnaire on investigating how the programme influenced participants':

1. Understanding of their role as leaders.
2. Personal leadership philosophy.

3. Ability to successfully mentor and develop their subordinates.

The conceptual framework presented in the figure below illustrates the theoretical logic underpinning this research:



Figure 7: Conceptual Framework of the NSOU Leadership Academy Impact Model

The NSOU Leadership Academy programme is designed to be the primary educational intervention to develop SOF personnel leadership capabilities in the Alliance. By using tools like leadership education, practical exercises and professional networking it aims to influence key leadership development outcomes, such as leadership identity formation, leadership skills development and decision making under uncertainty. These individual-level outcomes are expected to have a broader organisational impact within SOF Units and Organisations, including mentoring of junior leaders, standard operation procedures development and increased operational effectiveness. Therefore, this framework connects the programme's educational design with measurable outcomes and organisational performance.

2.5 Overview of NATO Training and Development Practices

Using the analysis in NATO's approach in curriculum design from sub-chapter 2.3, the reader can find here an interpretation of how the five levels of curriculum design, as analysed in paragraph: 2.1, fit into NATO's approach to curriculum design.

At the supra level, according to Priestley et al. (2021), the actors are international organizations like European Union (EU) and the Organization for Economic Co-operation and Development (OECD). This would suggest that NATO itself holds this role. The Military Committee (MC) defines and annually approves the multiple educational and training disciplines, with this being the first level that the military participates in the process, and then each discipline creates its own Strategic Training plan (STP), approved again by NAC.

At the macro level the actors are curriculum development agencies at the national government level (Priestley et al., 2021). In NATO, Allied Command Transformation (ACT) is responsible for the coordination and management of that education and training through global programming (Bi-SC 75-7). For every discipline in NATO, ACT is the joint force developer (JFD). It supervises the authorities at the next (meso) level of curriculum design.

At the meso level, the actors are district level curriculum agencies and subject area advisors (Priestley et al., 2021). These roles in NATO are assumed by the Requirements Authority (RA) and the Department Head (DH). NATO Special Operations University President is the DH in SOF discipline. He is responsible for leading, conducting and approving Training Needs Analyses (TNAs). NSOU President is responsible for translating the operational requirements into education and training within a subject, programme, module, or course; and apply the educational standards to which the programme, modules and courses will adhere.

At the micro level, the key actors are the heads of schools and universities and the teachers/educators (Priestley et al., 2021). In NATO this role is covered by the leadership and faculty of the NATO NETFs. NSOU has the leading role in SOF discipline and coordinates all other NETFs that offer SOF related courses (NATO, 2023). At the micro level of curriculum design, the researcher and the other members of the NSOU SOF Leadership Academy hold this role in their duties as leading the development of the

professional educational programme for the NATO SOF Officers and Non-Commissioned Officers.

At the nano level, teachers/educators and students are the key players (Priestley et al., 2021). In NATO, these are the instructors and students in all the courses offered either from ACT accredited NETFs, or through a series of NATO recognized CoE. The researcher and the rest of the faculty of the NSOU SOF Leadership Academy are currently holding this role, as instructors of the programme (NATO, 2023).

3 Methodology

This research aims to evaluate whether the professional development programme of the NSOU Leadership Academy is fit-for-purpose in building the future NATO Special Operations Forces nimble-minded warriors. Given that cognitive superiority (Giordano, 2024) and cognitive overmatch (Tadjdeh, 2020) over the adversaries are crucial for future SOF, the ability to excel in situational awareness and decision-making – outthinking and outmanoeuvring opponents – is central to NATO’s vision of success in fast-paced, highly contested battlefields.

To avoid NSOU’s Leadership Academy programme’s complacency, it was deemed necessary to investigate this issue with a systematic mixed method analysis. The research was successfully completed with a total sample of 120 questionnaires, which provide a satisfactory baseline for drawing evidence and conclusions on the subject.

The audience of this research is my institution; NATO Special Operations University, and all the Allied and Partner nations’ educational and training facilities that have or are planning to develop leadership programmes for SOF and SOF-related personnel.

3.1 Research Design and Approach

In this section of the research paper, we are going to discuss different research methods in order to have a build a better understanding of the available research methodology. According to Zarei, research methods are systematic methods for the data collection, analysis, and interpretation with the aim of testing hypotheses or answering research questions. They can be (broadly) categorized into qualitative, qualitative, and mixed methods, with each being more suitable in various research (Zarei, 2025).

1. The qualitative methods explore the use of "why" and "how" non-numerical data and can provide insight to behaviours, opinions, and social dynamics. They include methods like in-depth interview, focus groups, ethnographic research, case studies, and content analysis (Zarei, 2025). The table below provides a more detailed analysis of each technique:

QUALITATIVE TECHNIQUES				
Name	Definition	Best Use	Advantages	Limitations
In-Depth Interview	A person-to-person discussion using open-ended questions	Understanding a person's experiences, motivations and emotions	Flexible application and deep personal insights	Time consuming and highly dependent on interviewer's capabilities and biases.
Focus Groups	A facilitator-led discussion with a number of participants (between 6 to 10)	Understanding group dynamics and gathering varied opinions	Reveals groups' dynamics and decision process	Less depth per person than interviews, dominant characters can skew results
Ethnographic Research	Studying participants in their natural environment	Studying cultural context in the real world	In context understanding of real-world data	Requires a lot of resources, the researcher's presence influences results, and interpretation could be subjective
Case Studies	Detailed research on a single topic or person	Understanding in depth of rare or complex phenomena	Detailed analysis and real-world application	Researcher's biases and little to no chance of generalizability
Content Analysis	Systematic text analysis	Studying patterns in communication	Manages large data, can be both qualitative and quantitative	Depends on code accuracy, may lead to context loss

Table 1: Qualitative Research Techniques

2. The Quantitative Methods collect, measure, and analyse numerical data ("how much"), in order to identify patterns, test hypotheses and draw conclusions. They include surveys and questionnaires, experimental and correlational research, and longitudinal and cross-sectional studies. Once more we are going to use a table to better analyse each technique (Zarei, 2025):

QUANTITATIVE TECHNIQUES				
Name	Definition	Best Use	Advantages	Limitations
Surveys & Questionnaires	Structure close-ended questions tools to receive data from a large population	Customer feedback and public opinion feedback, large scale studies	Easy to analyse, scalable, and cost-effective	Biased or superficial replies, participants' biases
Experimental Research	Control studies of manipulating variables to test relationships between cause and effect	Product testing, behavioural studies, and scientific research	Repeatable results, establish causality, and show high reliability	Ethical concerns with human studies, artificial settings
Correlational Research	Studies relationships among variables without manipulation	Predictive analysis	Easy to run natural observation, identifies patterns	Influenced by external variables, cannot prove causation
Longitudinal Studies	Tracking changes on individuals we observe	Behaviour change, study development, and health outcomes	Strong internal validity as it	

QUANTITATIVE TECHNIQUES				
Name	Definition	Best Use	Advantages	Limitations
	for a long period of time		captures trends over time	
Cross-sectional Studies	A snapshot analysis of data collected at a single moment in time	Market research, demographic profiling	Small resource footprint, quick, and efficient	Does not capture change or provide causation

Table 2: Quantitative Research Techniques

3. The Mixed-Methods allow a more balanced view of research problems. This method uses a mix both qualitative (open ended) and quantitative (closed ended) techniques and collects both numeric data and narration. The reader can find a more detailed analysis of the common mixed method designs in the following table (Zarei, 2025):

MIXED-METHODS DESIGNS				
Name	Definition	Best Use	Advantages	Limitations
Explanatory Sequential Design	Start with quantitative data and explain them with qualitative exploration	1. When both statistical evidence and deeper context are required 2. Offers data's validation through cross-verification 3. When the complexity of the research problem cannot be addressed by a single method	1. Deeper insights than words or numbers alone can provide 2. Cross validation equals greater credibility 3. Data collection, interpretation and application flexibility	1. Requires expertise in both methods 2. More time required due to multiple phases of data collection and interpretation
Exploratory Sequential Design	Start with qualitative research and test results with quantitative analysis			
Convergent Design	Collect both types of data and merge them for a full picture			

Table 3: Mixed-Methods Designs

A convergent mixed method was selected for this research, with the use of a common questionnaire, containing open and closed ended questions. This method was chosen because it increases the strengths of both qualitative and quantitative researches and at the same time it minimizes their limitations. As a negative, the use of the mixed methods means that the researcher needs to be familiar to both forms of research and that the analysis will be more time-intensive than using only one of them. While the selected convergent mixed-methods designs offers several strengths, its limitations are critically examined in Chapter 6 (Creswell, 2014, pp. 238 – 239).

3.2 Data Collection Methods (Questionnaire Design and Distribution)

Data collection was based on a self-developed mixed method and cross-sectional structured questionnaire, in coordination with the researcher's dissertation supervisor. The questionnaire was also approved by both NSOU's Vice President of Academics and Dean. Before its wider distribution, the questionnaire was tested in a small group of five employees of our organization, in the period 20 – 24 October 2025. All of them were graduates of different courses in our programme, they had a diverse educational background and had SOF experience at different military rank and organizational hierarchy levels. This ensured the clarity of the questions, the understanding of the key questions at hand, and length's appropriateness. The Likert scale in most questions was uniform in order to reduce related confusion. The test group participants' feedback on the questionnaire and survey's experience was very positive.

The final approved version of the questionnaire was formed on Qualtricks, the web platform for creating, distributing, and analyse online surveys, as it is in use from NSOU on a separate US government server – to secure all data from adversaries' malicious cyber-attacks – in which I have a professional account as member of NSOU's faculty.

Qualitative and quantitative data were collected simultaneously, following a convergent mixed method methodology (Creswell, 2014, p. 174). Quantitative data will be used to test if the Leadership Academy Programme is fit-for-purpose in building the future NATO Special Operations Forces nimble-minded warriors. Full range leadership model (Day & Hammond, 2011) informed the close-ended questions of the questionnaire that explored the Leadership Academy programme's influence on the participants' leadership effectiveness and leadership identity. The open-ended questions in the questionnaire will explore participants' real-life application of the learned skills, if they identify any gaps or redundancies in the curriculum, what aspects of the programme are considered most valuable, and any proposed improvements to better meet programme's objectives. The collection of both qualitative and quantitative data, and the merging and comparison of the two data-bases, will allow the development of a better understanding of the research problem (Creswell, 2014, p. 14).

3.3 Sample Selection: Graduates across Course Levels

The sampling design of this research is a single stage, as the researcher has access to members of the population and sample its members directly (Creswell, 2014, p. 176). One out of 4 course graduates (150 persons) received an individual email, with all the necessary data for participation, including a personalized link, with all replies remaining anonymous. The survey was open for participation for 30 days, in the period between 27 October and 28 November 2025. This sampling method is called probability sample, and more specifically systematic sampling. It is a technique where participants are selected using a fixed, regular interval. From a random start point in the list of the population selects every k^{th} person from that point onwards. The sampling ratio is given by the formula $k=N/n$, where N is the total size of the population, n is the desired sample size and k is the sampling interval. In this research, $k=N/n=600/150=4$ (Barrat and Shantikumar, 2018 & Bhattacharjee, 2019). By using this sample size, we avoided over or under representation of different parts of the graduates' population, at the very least based on sorting criteria. The data that supports this statement comes from the use of the online available Qualtricks population size calculator (Fisher, 2023) which for a population of 600 and a sample size of 150 provides 95% confidence level with a margin of 8% error. The available replies show that the 120 participants out of 150 invitations come from a variety of rank, organizational, and educational levels.

An important part of the sampling strategy was the inclusion of Command Senior Enlisted Leaders (CSELs) among the responders. The Command Team concept is based on the professional relationship between the Commander (an officer) and the CSEL (a non-commissioned officer). The NSOU Leadership Academy programme was designed to educate both officers and NCOs together. As a result, the perspectives of the CSELs are essential to assess if the programme effectively supports the Command Team model and their inclusion in the research enabled the evaluation of how leadership development is perceived across both rank categories and whether the curriculum supports shared leadership understandings between Commanders and CSELs.

Survey respondent participation percentage was $\frac{120}{150} = 0.8$ or 80% which is excellent, especially considering that the programme's graduates are active duty Special Operation Forces Operators, with really tight operational and training schedules, frequently deployed off base. Realizing this, an 80% participation percentage should be considered a blessing

and it is indicative of the importance of the Leadership Academy’s programme for its graduates, regardless of its effectiveness. The replies’ sample size represents $\frac{120}{600} = 0.2$ or 20% of the total population. Using the online available Qualtricks population size calculator this sample size provides 95% confidence level with 8% margin of error. This means that all survey findings are accurate plus or minus 8%, 19 times out of 20 (Fisher, 2023). No stratification of the population was made as its small size (600 graduates) is not suitable for stratification per nation (38 in total, 32 NATO members and 6 Partner nations) or per military rank (19 officers and NCOs ranks).

As mentioned in earlier at the “theoretical frameworks on leadership effectiveness and identity” (Chapter 2.4) of this paper, there are some variables that drove the creation of research questions, that in term formulated the survey questions (items). Please see a comprehensive analysis of these variables, research questions and survey items in the following table:

Variable Name	Research Question	Item on Survey
Independent Variable 1: Skills and Competencies.	Descriptive research Question 1: What are the skills and competencies of the students?	See Questions 2, 3, 4: Participants’ educational level, years of military service, and rank.
Independent Variable 2: Leaders’ Identity Formation.	Descriptive research Question 2: Did the programme influence the participants’ leadership identity formation?	See Questions 5, 6: Programme’s influence on students’ understanding of their role as leaders and of their personal leadership philosophy.
Independent Variable 3: Leadership Skills Development.	Descriptive research Question 3: Did the programme influence the participants’ leadership skills development?	See Questions 7, 8, 9, 10, 13: Programme’s influence on students’ confidence in their leadership abilities, on their ability to make decisions under uncertainty, on their ability to engage with cross-cultural teams, on their ability to mentor their subordinates, and on their ability to lead teams in complex and dynamic environments.

Table 4: Variables, Research Questions and Items on the Survey

3.4 Data Analysis Techniques

The questionnaire (available in Annex A) was organized into seven sections, starting with participants’ background. It then moved into participants’ leadership identity and the programme’s effect on it. After that, it included a series of questions on the organizational and tactical impact of the programme. The next section focused on the change of leadership

effectiveness of the graduates. The fifth section focused on the programme's andragogy. The sixth section focused on the multi-course graduates of the programme and examined its curriculum consistency and cumulative logic. The final section examined the overall satisfaction of the graduates and their recommendations for improvement.

The survey is comprised of a total of 21 questions, 17 closed-ended and 4 open-ended. Both quantitative and qualitative data were collected simultaneously, in a convergent parallel mixed methodology, to provide an analysis of the research questions (Creswell, 2014, p. 14).

The majority of the closed-ended questions have the same five options on a continuous Likert scale: Very dissatisfied – Dissatisfied – Neutral – Satisfied – Very satisfied. There are two exceptions: four questions regarding participants' educational and rank levels, and years of military service and programme's course from which they graduated and one question examining curriculum consistency across the four courses, with different reply to options. The open-ended questions have text boxes available without word count limit.

Considering that the selection of the right research method is the foundation of a study, the researcher needs to align that method with its goals, with the required data and the available resources (Zarei, 2025). In the research at hand, we are trying to test if an existing educational programme is fit for purpose. It is the author's view that this study requires a convergent design mixed method approach, with a quantitative analysis of a structured survey that also includes a small number of open-ended questions for a qualitative analysis, i.e. both human insights and statistical trends (Creswell, 2014).

Quantitative Analysis

For the closed-ended questions of the questionnaires, the quantitative analysis of participants' replies will be summarized by measuring their central tendencies and variabilities, their means, their standard deviations, their minimum and maximum scores, and their score ranges. The analysis will be made using Microsoft Excel. All 17 closed-ended questions will be coded numerically according to the survey's Likert scales. For missing data, i.e. participants that replied partially to the questionnaire, mean imputation will be used. This means that missing values (blanks) will be replaced with the item's column average. (Field, 2018 and Andrade & Shashidharan, 2020)

Descriptive statistics will be used to address the participant's perspective of the programme's influence on their leadership effectiveness, on its organizational impact, and

on curriculum's cumulative coherence. The following statistics will be calculated for all 17 survey items:

- Mean (M): to represent the central tendency of responses
- Standard Deviation (SD): to evaluate responses' variability degree and dispersion of responses.
- Minimum and Maximum scores: to identify the responses' boundaries.
- Range: calculated as Max – Min, to indicate each item's spread.

The quantitative analysis will provide an overview of how the programme components were perceived by the participants and will allow the identification of the programme's strengths and areas requiring improvement. All results will be presented and tabulated in the next chapter of this paper. For each item, higher means will indicate more favourable perceptions of programme's effectiveness, while lower means will suggest participant's low satisfaction and therefore programme's ineffectiveness.

The internal consistency reliability for sections B (leadership identity) and C (organizational and tactical impact) of the questionnaire will be assessed using Cronbach's alpha (Shakib, 2018). According to George and Mallery (2003), a coefficient of $\geq .70$ is considered acceptable for indicating adequate reliability and internal consistency.

Single item questions could not be assessed with Cronbach's alpha, as there could be no internal consistency on single items as its use requires at least two items. As a result, the internal consistency of Questionnaire's sections D, E, F, and G will be measured using a single global item. This approach is common and methodologically acceptable for global satisfaction constructs, which are often captured reliably using a single, face-valid indicator.

Additionally to descriptive statistics, inferential statistical analysis will be conducted to determine if significant statistical differences exist amongst different participating groups, on their perception of the Leadership Academy programme's effectiveness. Two hypotheses will be explored in the quantitative analysis of this research. The first will be that there are no differences in the results between Non-Commissioned Officers and Officers. This will be determined by an independent two sample t-test. The second will be that there are no differences between the graduates of the four courses of the programme. This will be determined by an analysis of covariance (ANCOVA) test. For both tests, the variables will be measured as a categorical score (NCOs - Officers and STEP 1 – 2 – 3 – 4 course graduates respectively). t-test is the suitable tool to compare two groups (in this case NCOs and

Officers) in terms of outcomes and the ANCOVA test is suitable for a comparison of more than two groups (in this case graduates of the four separate courses of the programme), in terms of outcomes, controlling for covariates. For both statistical significances tests a 95% level ($\alpha=.05$) was used. Accordingly, results with $p>.05$ were treated as not statistically significant and the null hypotheses could not be rejected, whereas results with $p<.05$ were treated as statistically significant.

For the ANCOVA test, the independent variable was the course from which participants graduated, treated as a categorical between-subjects factor with four levels. For graduates of more than one course, only the highest level completed was used as the grouping variable, as the programme's courses are hierarchical and cumulative, with higher-level courses subsuming learning from lower ones. Education level was included as an ordered covariate to adjust for background differences between participants, and interaction terms (STEP x Education) were examined to assess whether the relationship between the covariate and outcomes differed across programme stages. The dependent variable was the total programme's evaluation score. The ANCOVA test was selected as it allows for comparison of group means while statistically adjusting for the influence pre-existing covariate, thereby providing an accurate assessment of the programme's consistence across the four courses. Likert-scale responses were treated as interval-level data. Assumptions of independence, linearity, homogeneity of regressing slopes, normality of residuals, and homogeneity of variances were considered prior to analysis, which was conducted in Microsoft Excel using multiple linear regression with dummy-coded variables. (Creswell, 2014, pp.181-184).

Questionnaires with missing responses will be excluded. This will ensure that all ANCOVA models will be estimated from only complete cases. Leastwise deletion is unlikely to create biased results, as it has a very limited proportion: between 4 and 8 in 120 received questionnaires, i.e. 3.33% - 6.66% of the total sample.

These inferential techniques (t-test and ANCOVA) will allow this research to not only describe graduates' perceptions but also to assess whether observed differences between groups were statistically significant, hence strengthening the analytical rigor of its findings.

Qualitative Analysis:

The four open-ended questions will be analysed using an inductive thematic analysis approach. This qualitative component was designed to complement the quantitative findings

and to provide depth on the participants' perceptions of the programme's value, its curriculum coherence, and their recommendations for improvement, as per the convergent mixed-method research design, implemented in this study (Creswell, 2014, p. 14).

Open-ended responses will be imported into NVivo (version 15) qualitative analysis software, widely used in social sciences, leadership studies, and programme evaluation research. NVivo will enhance the study's analytical transparency, systematic coding, and methodological rigor.

The study's qualitative inductive approach will follow the six-step inductive analysis process (Creswell, 2014, pp. 219-222):

- a. Organize and prepare the data for analysis. Missing data will be identified.
- b. Read the data. All responses will be read to develop an initial understanding of recurring ideas and patterns.
- c. Initial data coding. Units of text will be coded in NVivo. Codes will be generated inductively from the data and not imposed a priori by the researcher. This will be done so that participants' perspectives could emerge organically (Creswell, 2014, p. 220).
- d. Code refinement and consolidation. Similar codes will be reviewed and merged, to ensure conceptual clarity and reduce redundancy.
- e. Theme generation. Higher level themes will be developed to describe larger patterns of related codes
- f. Data interpretation and integration. The final themes will be interpreted in relation with the research questions, the Full Range Leadership Model (FRLM), and the quantitative findings, enabling methodological triangulation. Selected anonymized quotations will be used to illustrate themes and to preserve participants' authentic voices. (Avolio, 1999; Day & Hammond, 2011).

3.5 Ethical Considerations

The researcher needed to secure participants' consent and protect their privacy. It was also required to ensure that the research remained unbiased with the use of safe measures. Finally, the use the largest possible representative sample will increase reliability and

generalizability. To ensure replies' honesty and validity it was emphasized that participation in this study was entirely voluntary. Furthermore, participants had the right to withdraw from the study at any time. If they choose to withdraw, their responses would be excluded from the analysis and their questionnaire will be destroyed, unless their data had already been anonymized and incorporated into the overall analysis.

Additionally, given the institutional (NATO SOF) context of the research, particular attention was given to the handling of potentially sensitive organisational information. No classified operational data or mission-specific details were collected and no classified operational capabilities of NATO SOF will be revealed. Appropriate measures were taken to protect participants' sensitive personal data. The only part of the survey that included some possibly personal sensitive information was the one referring to participants' background. Although it did not include a request for nationality or name, a leak of that dataset could pose a potential threat for the Alliance. As a result, all data are stored in accordance with both NSOU's policies and NATO data protection regulations. They will be secured through password and held on a NATO classified work account, accessible only to the researcher. They will be maintained there for a period of two (2) years, before deleted.

This approach allowed the programme's graduates to provide their feedback without the concern that it could be traced back to them, their units, or their national contingents. These precautions were particularly important given the sensitive nature of NATO SOF and the current level of cyber and hybrid threats against the Alliance and were implemented to ensure compliance with ethical standards, responsible research practices, and security regulations within NATO academic environment.

4. Findings

In the following table there is an analysis of sample responding and non-responding members:

	Numbers	Percentages
Respondents	120	80%
Non-Respondents	30	20%

Table 5: Responding and Non-Responding Sample Participants

The 20% of non-respondents may have created a response bias effect. That means if they had participated, the results could vary from the current ones (Creswell, 2014). To determine this, the researcher contacted 3 of the non-respondents by telephone (10% of their population) and asked them to reply to their questionnaires verbally. No major variation was noticed from the average scoring, as analysed below.

4.1 Participant Demographics and Response Overview

This section presents participants' demographics and background characteristics. This data set provides contextual information, essential for the interpretation of the research results and allows the stratification of the participants in subsequent comparative analysis, including t-tests and ANCOVA.

The questionnaire's first four items were designed to provide participants demographics as follow:

Question 1 - Please state the details of the course/courses you attended.

This set of data is essential for graduates' stratification and testing curriculum consistency. The results per single course and multiple courses graduates in the following two tables:

Course	Number of Graduates
NSJLC - STEP 1 Graduates	33
NSMLC - STEP 2 Graduates	24
NSSLC - STEP 3 Graduates	26
NSELC - STEP 4 Graduates	10
Total:	93

Table 6: Single Course Graduates

Courses	Number of Graduates
STEP 1 & 2 Graduates	12
STEP 1 & 3 Graduates	1
STEP 2 & 3 Graduates	6
STEP 3 & 4 Graduates	1
STEP 1, 2, & 3 Graduates	6
STEP 1, 2, 3, and 4 Graduates	1
Total Graduates of Multiple Courses:	27

Table 7: Multiple Courses Graduates

Students' distribution indicates representation of all four courses of the Leadership Academy programme. The largest proportion of respondents has completed STEP 1, followed by STEP 3 and STEP 2, and the lowest participation was from graduates of STEP 4. This aligns with the actual numbers of available student groups per rank and organizational duties, in the pyramid of the military hierarchy.

A substantial number (n=27, i.e. 22,5%) of the participants reported completion of more than one course, reflecting the cumulative nature of the programme and providing the base for examining the programme's curriculum consistency and progression across the four courses.

Question 2 - What is your highest level of educational qualification?

This set of data will be necessary for analysing potential correlations between existing academic rigor and programme perceived value. The results per educational qualification of the graduates are tabulated in the following table:

Graduates Highest Level of Educational Qualification	Numbers
High School Diploma or equivalent (age 16 years old)	12
Post High School / College level qualification (age 18 years old)	33
Bachelor's Degree	28
Master's Degree	44
PHD	3

Table 8: Highest Level of Graduates' Educational Qualification

This item's mean and standard deviation are showed in the following table:

Mean	2.94
Standard Deviation	1.07

Table 9: Highest Level of Graduates' Educational Qualification Mean and Standard Deviation

Participants demonstrated a wide range of educational backgrounds. The mean shows that the group's average educational qualification is 2.97 (≈ 3), i.e. bachelor's degree. Standard deviation is relatively high (1.07), something that indicates substantial differences in the educational background of the participants. Therefore, the inclusion of education as a covariate in all further analyse may be appropriate because it could potentially affect participants' understanding of the programme's leadership development content and therefore their interaction with the programme's leadership development content, and pre-justifies analysis of covariance (ANCOVA).

Question 3 – How many years have you served in the military?

This set of data captures experience level, which is a key covariate for leadership development impact. The results are tabulated in the following table:

Graduate Years of Military Service	Numbers
0 - 5	0
5 - 10	12
10 - 15	16
15 - 20	30
20 - 25	28
25 - 30	23
30 - 35	9
35 - 40	2
More than 40	0
Never served	0
Mean	4.58
Standard Deviation	1.47

Table 10: Graduates' Years of Military Service

The mean shows that the group's average years of military service is 4.58, i.e. between 15 and 25. This indicates that the sample is composed predominately by mid to late career personnel. Additionally, no participant has served less than 5 years and more than 40 years. Standard deviation is relatively high (1.47) which shows a high variability in experience base. Additionally, all participants are (or were during their participation in the programme) active-duty service personnel.

Question 4 - What is your current rank or your final rank, in case you are retired?

This set of data is essential for aligning participant rank level, with the specific course attended. The results are tabulated in the following table¹⁴:

Graduates' Military Rank	Numbers
OR-4 to OR-5, Corporal to Sergeant and equivalent ranks	2
OR-6 to OR-7, Staff Sergeant to Sergeant First Class and equivalent ranks	22
OR-8, Master Sergeant and equivalent ranks	12
OR-9, Sergeant Major and equivalent ranks	15
OF-1 to OF-2 Second Lieutenant to Captain and equivalent ranks	30
OF-3 to OF-4, Major to Lieutenant Colonel and equivalent ranks	31
OF-5 Colonel and equivalent ranks	6
OF-6 to OF-10 Brigadier General to General and equivalent ranks	2
Never served	0

¹⁴ Ranks are grouped according to NATO's STANAG 2116, and NATO Non-Commissioned Officer (NCO) Bi-Strategic Command Strategy and NCO Guidelines.

Mean	4.47
Standard Deviation	1.67

Table 11: Graduates' Military Rank

Standard deviation is high (1.67) which shows a high variability in replies. Participants' rank distribution shows a balanced representation of senior NCOs and Officers, with mean rank (4.47) positioned between the highest NCO (OR-9) and lower Officer (OF-1) ranks. This reflects the programme's intended target population and supports the relevance of the findings to leadership development across both NCO and Officer Corps and across Tactical, Operational and Strategic levels command roles.

The participants' sup-grouping of Officers and Non-Commissioned Officers is showed in the following table:

Non-Commissioned Officers	51
Officers	69

Table 12: Graduates Officer – NCO Grouping

These two sub-groups mean, and standard deviation is also showed in the following table:

Non-Commissioned Officers Mean	2.78
Non-Commissioned Officers Standard Deviation	0.92
Officers Mean	5.72
Officers Standard Deviation	0.75

Table 13: Officers and Non-Commissioned Officers Means and Standard Deviations

This data set indicates that the average rank amongst the Non-Commissioned Officer was just below (2.78) of the OR-8 - Master Sergeant and equivalent rank. Additionally, the participating Officers' average rank was also just below the OF-3 to OF-4 - Major to Lieutenant Colonel and equivalent ranks. Both groups' standard deviation was relatively high, indicating an equally high variation in responses.

4.2 Influence on Leadership Identity

This subsection (Section B of the questionnaire) examines the programme's perceived influence on participants' leadership identity, including role understanding, leadership

philosophy, and self-confidence. These research items are central to leadership identity formation and align with the theoretical framework discussed in Chapter 2.

Question 5 - To what extent has the Leadership Academy influenced your understanding of your role as a leader?

This question is useful in measuring the programme's perceived conceptual influence. The results are presented in the following table:

Not at all:	1
Slightly:	14
Moderately:	42
Significantly:	50
Extremely:	9
No Reply ¹⁵ :	4
Mean:	3.45
Standard Deviation:	0.82

Table 14: Programme's influence on Graduates' Understanding of their Role as Leaders

Responses indicate that most participants perceived a moderate to significant (Mean=3.45) influence of the programme on their understanding of their leadership role. While overall perceptions were positive, the observed variability (SD=0.82) suggests that participants did not experience this influence in a uniform way.

Question 6 - To what extent has the programme clarified your personal leadership philosophy?

The importance of this question lies in the fact that it can provide data on the theoretical frameworks on leadership effectiveness and identity, as analysed in Chapter 2.4. The next table presents the results:

Not at all:	1
Slightly:	13
Moderately:	51
Significantly:	45
Extremely:	6
No Reply ¹⁶ :	4
Mean:	3.36

¹⁵ The four no replies were populated with the Mean: 3.45, to allow analysis.

¹⁶ The four no replies were populated with the Mean: 3.36, to allow analysis.

Standard Deviation:	0.77
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Table 15: To What Extend has the Programme Clarified Graduates' Personal Leadership

Participants responses indicate that the programme contributed to clarifying their leadership philosophy a little over “moderately” (Mean=3.26). This distribution suggests conceptual impact while also indicating differences in the depth of the achieved clarity (SD=0.77).

Question 7 - How confident do you feel in your leadership abilities after completing the course(s)?

This set of data importance lies in the fact that it measures self-efficacy, which is a key component of identity. The results are tabulated in the following table:

Not confident	0
Somewhat confident	6
Confident	40
Very confident	59
Extremely confident	11
No Reply ¹⁷ :	4
Mean:	3.65
Standard Deviation:	0.71

Table 16: How Confident Graduates feel in their Leadership Abilities, after completing the Course (s)

Participants' confidence in in their leadership abilities was rated relatively high (Mean=3.65), a little under “significantly”. This suggests that the programme supports leadership self-efficacy, a key component in leadership identity, as analysed in Chapter 2. Standard deviation of 0.71 (medium) shows that the responses are somewhat varied.

For this leadership identity subsection (Section B of the questionnaire), the internal consistency reliability was measured using Cronbach's alpha. A coefficient of $\alpha=0.747$ was measured, indicating acceptable reliability (George & Mallery, 2003).

4.3 Organizational and Tactical Impact

This subsection (Section C of the questionnaire) explores participants perceived organizational and tactical impact of the programme, focusing on decision making under

¹⁷ The four no replies were populated with the Mean: 3.65, to allow analysis.

uncertainty, interagency leadership, mentoring, strategic application, and the programme's balance between theory and practice.

Question 8 - To what extent did the programme enhance your ability to make decisions under extreme uncertainty (VUCA/Complex Environments)?

This set of data tests directly the "nimble-minded warrior" concept, i.e. the ability to operate when information is ambiguous or conflicting. Results are presented here:

Not at all:	6
Slightly:	31
Moderately:	37
Significantly:	36
Extremely:	5
No Reply ¹⁸ :	5
Mean:	3.03
Standard Deviation:	0.97

Table 17: Programme's enhancement of Participants' ability to make Decisions under Extreme Uncertainty

Participants reported moderate (Mean=3.03) changes in their ability to make decisions under uncertainty. High relatively high variability (SD=0.97) is indicated by the results; i.e., although some participants saw substantial improvements as a result of participating in the program, others did not see such an improvement.

Question 9 - To what extent has the programme prepared you to effectively engage with and lead Interagency and Multinational (cross-cultural) teams?

The data presented here test whether or not the programme had an impact on participants' ability to engage and lead cross-cultural teams. The results are shown in the table below:

Not at all:	2
Slightly:	8
Moderately:	39
Significantly:	48
Extremely:	18
No Reply ¹⁹ :	5
Mean:	3,63

¹⁸ The five no replies were populated with the Mean: 3.65, to allow analysis.

¹⁹ The five no replies were populated with the Mean: 3.63, to allow analysis.

Standard Deviation:	0,87
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Table 18: Programme's extent of participants' preparation to effectively engage with and lead Interagency and Multinational teams

The program was seen by participants as very effective in preparing them for operations in both interagency and multinational environments (mean=3.63). The medium-sized standard deviation (SD=.87) shows that there was some variation in the participant responses.

Question 10 - How significantly has the programme influenced your ability to successfully mentor and develop junior leaders within your command?

This set of data measure a key organizational function of senior leaders: capacity building and talent management. The data are presented in the table below:

Not at all:	6
Slightly:	13
Moderately:	32
Significantly:	53
Extremely:	11
No Reply ²⁰ :	5
Mean:	3.43
Standard Deviation:	0.97

Table 19: Programmes' Influence on Participant's Ability to Successfully Mentor and Develop Junior Leaders within their Commands

Mean (3.43) shows that mentoring and development of junior leaders were rated positively overall (between “moderately” and “significantly”), though the distribution of responses (SD=0.97) indicates variation in perceived impact. This suggests that mentoring may be a differentiating outcome of the programme.

Question 11 - To what extent do you apply the strategic concepts taught in the academy to formulate new/improved organizational policies or standard operating procedures (SOPs) in your current role?

²⁰ The five no replies were populated with the Mean: 3.43, to allow analysis.

This set of data measures organizational impact and moves beyond personal effectiveness (see question 13 below) to assess if the learning translates into systemic change. The next table presents the replies:

Not at all:	5
Slightly:	21
Moderately:	48
Significantly:	34
Extremely:	7
No Reply ²¹ :	5
Mean:	3.15
Standard Deviation:	0.92

Table 20: Graduates' Utilization of Programmatic Strategic Concepts for Developing New/Improved SOPs in Their Current Work Position

Graduates' application of the programme's strategic concepts, related to organisational processes, were rated as moderate (Mean=3.15). The high standard deviation (SD=0.92) represents a degree of variance within the participants in terms of how much they have utilised their learning in developing new/modified SOPs in their current work position. Therefore, there may be additional opportunities for graduates' development that would support enhanced organisational impact through increased emphasis on translating learning into work practices.

Question 12 - How well did the programme balance theoretical leadership models with the practical application required for SOF operations?

This set of data assesses the "Fit-for-Purpose" aspect of the programme, ensuring the theory (e.g., academic concepts) is relevant and actionable for SOF specific challenges. The data set is presented in the following table:

Not at all:	7
Slightly:	15
Moderately:	29
Significantly:	51
Extremely:	13
No Reply ²² :	5
Mean:	3,42

²¹ The five no replies were populated with the Mean: 3.15, to allow analysis.

²² The five no replies were populated with the Mean: 3.42, to allow analysis.

Standard Deviation:	1,03
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Table 21: Programme's Balance between Theoretical Leadership Models and SOF Practical Application

Mean (3.42) shows that participants generally perceived the balance between theoretical leadership models and practical SOF application as appropriate, supporting the programme's stated fit-for-purpose objective. Standard deviation of 1.03 (high) indicates that the responses were varied.

For this organizational and tactical impact subsection (Section C of the questionnaire), the internal consistency reliability was measured using Cronbach's alpha. A coefficient of $\alpha=0,845$ was measured, indicating good reliability (George & Mallery, 2003).

4.4 Perceived Leadership Effectiveness

This subsection (Section D of the questionnaire) adopts a mixed-methods approach to examine perceived leadership effectiveness, focusing on participants' ability to lead in complex and dynamic environments and the practical application on learned skills. Question 13 provided quantitative data on participants' reported improvement in leadership capability. Question 14 generated qualitative data, offering contextualized examples of how the new learned skills were practically applied. The integration of both open and closed-ended questions enabled the measurement of the participants' perceived impact and the exploration of their underlying experiences, in consistency with the convergent mixed-methods design (Creswell, 2014, pp. 238 – 239).

Question 13 - How has the programme improved your ability to lead teams in complex and dynamic environments?

This set of data addresses the "nimble-minded warrior" concept and operational impact. The response data are presented in the table below:

Not improved	5
Slightly improved	22
Moderately improved	45
Greatly improved	36
Exceptionally improved	3
No Reply ²³ :	9

²³ The five no replies were populated with the Mean: 3.09, to allow analysis.

Mean:	3.09
Standard Deviation:	0.87

Table 22: Programme Graduates' Improvement of ability to lead teams in complex and dynamic environments

Responses indicate a moderate to significant perceived improvement in participants' ability to lead teams in complex environments (Mean=3.09, SD=0.87). The variability of responses indicates differing levels of translations from learning into practice.

Question 14 - Provide examples of situations where you applied skills learned in the programme.

This data-set was analysed through the established six-step process for conducting qualitative research (Creswell's, 2014, pp.219-222). The data collected through Qualtrics was first read to establish some general knowledge about the patterns and recurring ideas in the responses. Following this, the data was imported into NVivo. The following graphic is a word cloud created using NVivo. The graphic provides a visual representation of all the "most frequent" words used throughout the entire dataset, with the size of each font reflecting how often they were used. It also offers a preliminary means of identifying areas of emphasis in the data as well as provides a way to visually identify patterns which may later influence subsequent thematic coding.



Figure 8: Question 14 Word Cloud

The prominence of words such as “thinking”, “understanding”, “applied”, and “learning” suggests that the participants frequently associated these concepts with their

experiences. These patterns informed the subsequent thematic coding and analysis. While the above commonly used terms were highlighted by how frequently there were used by the participants, they do not capture contextual meaning or sentiment. Therefore, the word cloud is used as a complementary tool and not as a standalone analytical method. NVivo auto-coded 60 themes, as shown alphabetically in the following table:

S/N	THEMES	S/N	THEMES	S/N	THEMES
1	analysis	21	exercises	41	process
2	applied skills	22	force	42	projects
3	approaches	23	future	43	role
4	basis	24	international environment	44	session
5	challenges	25	job	45	sets
6	changes	26	leadership	46	situations
7	command	27	leading	47	skills
8	command teams	28	learning	48	strategic thinking
9	concept	29	level	49	structure
10	context	30	making process	50	tactical
11	course	31	management	51	tasks
12	daily	32	methods	52	team
13	daily life	33	model	53	team building
14	decision	34	multinational environment	54	techniques
15	development	35	officers	55	thinking
16	dynamic environments	36	operations	56	time
17	effects	37	organisation	57	tool
18	environment	38	personality	58	training
19	ethical	39	planning	59	Understanding
20	events	40	priority	60	unit

Table 23: Question 14 NVivo Auto-Coded Themes

Following the initial auto-coding in NVivo, a second stage of coding (manual) was then conducted. Overlapping and semantically similar codes were consolidated and restructured into higher-order themes, to ensure conceptual clarity and reduce redundancy. The following figure provided from NVivo shows offers a graphic representation of this hierarchy chart:

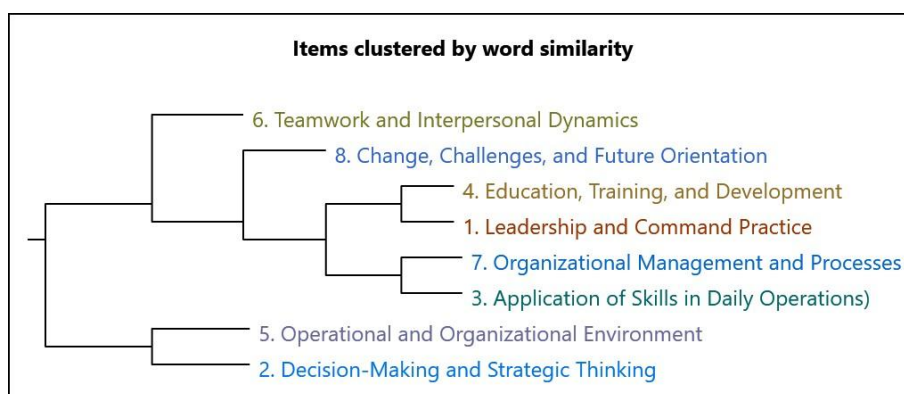


Figure 9: Question 14 Hierarchy Chart

Once the new manually coded themes had been developed, these were evaluated using the same dataset to confirm that each theme was grounded within the data. Further, to add to the rigour of the analysis, the coding process entailed continuous iterative comparisons between the themes and the data; to assure the internal coherence of the themes and to differentiate clearly amongst them. Quotations exemplifying typical (as opposed to extreme) cases were selected to provide additional support for the analysis' This process resulted in a hierarchical coding framework, analysed in the following table and graphically presented in the following figure:

Themes	Rationale/Description	Manual Coding Themes	Exemplar Quotes
Command Leadership Officers Role Unit	One coherent leadership construct	1. Leadership and Command Practice	<i>"I have applied elements of Meinhardt's foundations concept and some components of the 5 lenses of strategic thinking (initially from Summit -I) to our SOF EUBG deployment. I would have also applied elements of Senge's 11 laws of learning organisation through our expansion and development from a CT-focused unit to a SOLTG. The ethical triangle of principles, consequences and virtues would play out at varying levels weekly" (P37)</i>
Decision Making Process Planning Priority Strategic thinking Tactical Thinking Time	Fragmented leadership terms to decision-making as practice	2. Decision-Making and Strategic Thinking	<i>"I applied the skills from the programme in planning training activities, leading my team during demanding situations, and solving complex tasks where quick analysis and decision-making were required. The programme also helped me improve communication, task delegation, and priority setting." (P50)</i>
Applied skills Exercises Methods Model Skills Tasks	"Skills" consolidation	3. Application of Skills in Operational Contexts	<i>"MA mission in Benin: teaching and developing leadership skills for BEN NCO's" (93)</i>

Themes	Rationale/Description	Manual Coding Themes	Exemplar Quotes
Techniques Tool			
Course Development Exercises Learning Session Training Understanding	Separation of learning processes from skill application	4. Education, Training, and Development	<i>“During a multinational training event, I applied adaptive leadership and rapid decision-making skills from the programme to manage unexpected changes in partner-unit inputs. I adjusted priorities, reassigned tasks, and maintained clear communication to keep the team aligned and the mission on schedule.” (P98)</i>
Environment Dynamic environment Force International environment Multinational environment Operations Organizational structure	“Environment” elevates from word and becomes contextual condition	5. Operational and Organizational Environment	<i>“in every day life. I changed the attitude how to lead my squadron and be more effective and decisive.” (P114)</i>
Command teams Ethical Personality Team Team building	Ethics as a leadership practice	6. Teamwork and Interpersonal Dynamics	<i>“(…) I had the opportunity to spread the concept of „Mission Command” in my team and it greatly improved our work ethic.” (P54)</i>
Daily Daily life Job Management Operations Organization Process Projects Sets Structure Situations Work	Day-to-day practices	7. Organizational Management, Processes and Role Application	<i>“Critical thinking is something that I personally have incorporated in my daily decision making process. Another one is networking on which NSOU have put emphasis in their courses. That's something I haven't had opportunity to encounter on institutional level as I have on NSOU courses.” (P19)</i>
Challenges Changes Effects Events Future Situations	“Future” consolidation	8. Change, Challenges, and Future Orientation	<i>“I actively apply the communication techniques and leadership tactics I learned during the Junior-, Mid-Level-, and Senior-Leader courses in my day-to-day work. I use these skills when interacting with non-commissioned officers as well as commissioned officers. I apply them in verbal and written communication, and through digital channels as well. Furthermore, the methodology and didactics of the Junior-, Mid-Level-, and Senior-Leader courses have significantly contributed to my learning success. I will now apply these approaches to train and develop future NCO leaders within my organization. The content of all three courses will be reflected in various ways in our purely national training program and has served</i>

Themes	Rationale/Description	Manual Coding Themes	Exemplar Quotes
			<i>as an example for me of what modern learning should look like.” (P111)</i>

Table 24: Question 14 Manual Code Refinement

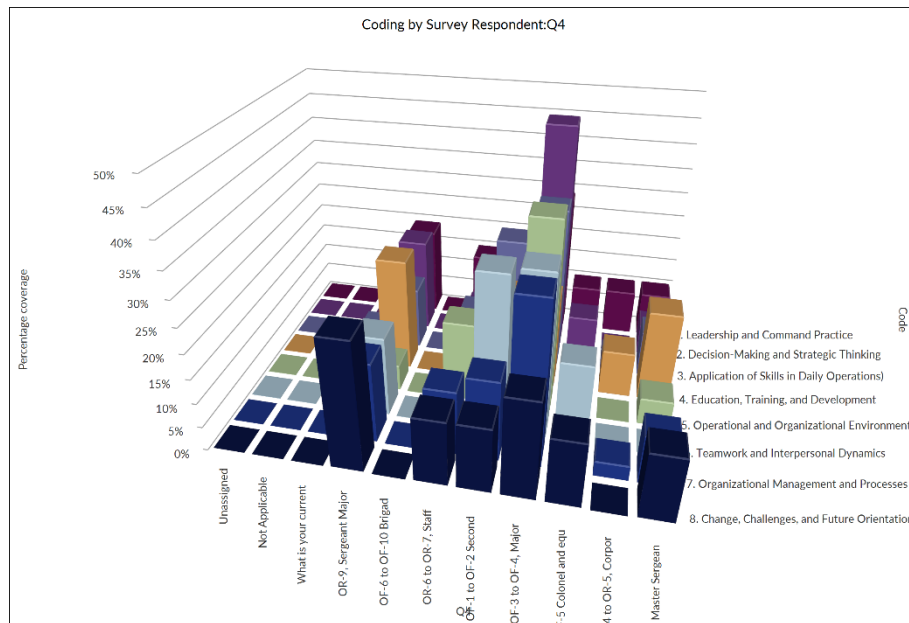


Figure 10: Question 14 Manual Code Refinement

These participant accounts illustrate leadership behaviours consistent with the Full Range Leadership Model (FRLM), discussed in Chapter 2. In particular, references to adaptive decision-making, responsibility under uncertainty, and influencing others reflect elements of transformational leadership, specifically intellectual stimulation and idealized influence. The application of structured decision processes under pressure further aligns with the transactional component of active management-by-exception, demonstrating that graduates integrate both transformational and transactional leadership behaviours in operational contexts.

These findings illustrate how participants applied skills acquired during the programme across leadership, decision-making, operational contexts, and organizational environments. Eight interrelated themes were identified, highlighting not only the transfer of learning into professional practice but also the conditions under which such transfer took place. The interpretation of these themes in relation to the quantitative findings from Question 13 and the Full Range Leadership Model will take place in Chapter 5, enabling methodological triangulation.

4.5 Andragogy

This subsection (Section E of the questionnaire) evaluates the programme's perceived andragogic effectiveness, including teaching methods and instructional materials. This dataset links to programme's quality.

Question 15 - How effective do you find the teaching methods and materials used?

The replies' data are presented in the following table:

Very ineffective	1
Ineffective	1
Neutral	15
Effective	69
Very effective	25
No Reply ²⁴ :	9
Mean:	4.05
Standard Deviation:	0.67

Table 25: Programme's Teaching Methods and Used Materials Effectiveness

Teaching methods and materials were rated high (Mean=4.05), and medium standard deviation (SD=0.67) indicates that the responses somewhat varied. This can be taken as an indicator that instructional design and delivery quality were very high at all of the programme's courses.

4.6 Curriculum Consistency and Cumulative Logic

This subsection (Section F of the questionnaire) adopts a mixed-methods approach to examine perceived curriculum consistency and cumulative logic, particularly among participants who completed multiple programme stages. Questions 16 and 17 provided quantitative data on the programme's cumulative logic and consistency. Question 18 generated qualitative data, on perceived curriculum gaps and redundancies for the programme. The integration of both open and closed-ended questions is consistent with a convergent mixed-method design (Creswell, 2014, pp. 238 – 239).

²⁴ The five no replies were populated with the Mean: 4.05, to allow analysis.

As we can meaningfully investigate the sequencing and coherence of the programme's curriculum only considering the replies of multiple programme stages participants, Questions 16 and 17 quantitative analysis was conducted using only responses from those participants.

Question 16 - For those who completed multiple courses, how well do the courses build upon each other?

This set of data directly measures programme's cumulative logic. The response data are presented in the table below:

Not at all	0
Poorly	1
Adequately	5
Well	13
Very well	18
I participated in only one course	74
No Reply:	9
Multiple Courses Participants Only Mean:	4.30
Multiple Courses Participants Only Standard Deviation:	0.89

Table 26: Courses' Build Upon Each Other

Among participants who completed multiple courses, responses indicate that courses generally build upon each other effectively (Mean=4.30, above "well"), supporting programme's cumulative design. Standard deviation of 0.89 indicates that this perception somewhat varied amongst participants.

Question 17 - How consistent and coherent did you find the curriculum across the four courses?

This set of data direct measures curriculum consistency. This is slightly different from question 16, as consistency relates to theme/message, while question 16 relates to sequencing. Results are presented in the following table:

Very inconsistent	2
Somewhat inconsistent	0
Neutral	5

Somewhat consistent	6
Very consistent	29
I participated in only one course	69
No Reply:	8
Multiple Courses Participants Only Mean:	4.43
Multiple Courses Participants Only Standard Deviation:	0.96

Table 27: Curriculum's Consistency Across the Four Courses?

Participants perceived a high degree of curriculum consistency across courses (Mean=4.43, between “somewhat consistent” and “Very Consistent”), reinforcing the internal coherence of the programme. Standard deviation of 0.69 indicates that this perception varied amongst responses.

Question 18 - Are there any gaps or redundancies in the curriculum you would like to highlight?

While the above two question captured the participants' perceptions of curriculum sequencing and consistency, Question 18 provides an opportunity to elaborate on these perceptions by identifying specific gaps and redundancies in the curriculum.

This set of data was analysed with the established six-step process for qualitative research (Creswell, 2014, pp. 219-222). Replies were downloaded from Qualtrics and read, so an initial understanding of recurring ideas and patterns could be established. After this, data was imported into NVivo for further analysis. The picture below is a word cloud generated by NVivo. It clearly shows which words occurred most frequently in the dataset, with font size representing the number of times that every word occurred. It offers an overall view of the most prominent subjects, helps identify important areas of focus in the data, and supports the initial discovery of patterns which will be used as a guide when developing themes during the subsequent thematic coding process.



Figure 11: Question 18 Word Cloud

The prominence uses of words such as “practical”, and “learning” suggests that the participants frequently associated these concepts with their experiences. These patterns informed the subsequent thematic coding and analysis. While the above commonly used terms were highlighted by how frequently there were used by the participants, they do not capture contextual meaning or sentiment. Therefore, the word cloud is used as a complementary tool and not as a standalone analytical method. NVivo auto-coded 25 themes, as shown alphabetically in the following table:

S/N	THEMES	S/N	THEMES
1	command	14	opportunities
2	conflict	15	personality
3	course	16	phase
4	environment	17	practical applications
5	exercise	18	respective level
6	interaction	19	situations
7	leadership	20	team
8	learning	21	team leadership
9	level	22	thinking
10	making	23	time
11	managing	24	topics
12	mid-level course	25	traits
13	operations		

Table 28: Question 18 NVivo Auto-Coded Themes

The initial auto-coding graphical representation is presented in the following figure:

Q 18 Word Query

course	practical	leadership	participated	like	based	think	topics	well	work	better	command
				mid	good	discuss	interaction	use	junior	lacked	leaders
	gaps	one	focused		none	distance	maybe	redundant	required	respectively	units
		sof	phase	nothing		early	multiple	use	applied	applied	back
	learning				nsou				build	content	current
step			real	nstr		exercis	nato	words		challeng	environ
	operational	time				experien	nil	2000	class	difficult	even
			decision	team	personality	great	peer	academ		exam	highlight
level	curriculum	making	history	attended	senior	high	program	also	conflict	domain	expect
										interest	job

Figure 12: Question 18 NVivo Auto-Coding Word Tree

Following the initial auto-coding in NVivo, a manual code refinement was conducted. Overlapping and semantically similar codes were consolidated and restructured into higher-order themes, to ensure conceptual clarity and reduce redundancy. The new manual coded themes were reviewed against the dataset, confirming that they were grounded to the data. To enhance the analysis' rigor, the coding process involved iterative comparison between themes and data, ensuring internal coherence and clear distinction amongst them. Exemplar quotations were selected to show typical rather than extreme cases, to support the analysis' credibility and transparency. This process resulted in a hierarchical coding framework, analysed in the following table:

Themes	Rationale/Description	Manual Coding Themes	Exemplar Quotes
Course Learning Level Mid-level course Opportunities Respective level Topics	Curriculum sequencing, repetition progression, and perceived developmental value	1. Learning Progression and Developmental Value	"The content of all three courses—Junior, Mid-Level, and Senior—is logically structured and builds appropriately on each respective level. Tactical, operational, and strategic thinking must be taught progressively, and all three courses follow this principle. For me personally, this represents a coherent and meaningful developmental pathway." (P111)
Conflict Interaction Leadership Personality Team Team Leadership Traits	Leadership as a relational practice	2. Leadership Identity and Interpersonal Practice	<i>"Very good job highlighting and practicing the importance of communications but lacked actual leadership decision making opportunities. The command team principle is good but we never get to practice/exercise command team leadership decision making."</i> (P11)
Command Conflict Environment Exercise	Integration of practice, content, and	3. Experiential Learning and Operational Relevance	<i>"I would appreciate seeing more real-life examples and practical demonstrations of how to apply the theoretical concepts in real operational situations. This would help</i>

Themes	Rationale/ Description	Manual Coding Themes	Exemplar Quotes
Operations Interaction Making Managing Phase Practical applications Situations Team Time	operational realism		<i>bridge the gap between theory and practice even more effectively.” (P50)</i>
Opportunities	Forward looking critique	4. Curriculum Gaps and Enhanced Opportunities	<i>“Use the opportunity of multiple NATO SOF Units to address issues facing operators within each unit and benefit from multiple nations experiences (e.g. Operator syndrome/TBI/depression/recruiting/retention and any methods that have been found to work) Also adding in a Human Performance Programme element in to the residential part of the course to encourage team cohesion and networking.” (P71)</i>

Table 29: Question 18 Manual Code Refinement

From a theoretical perspective, these perceptions of structured progression and cumulative learning, align closely with the ADDIE instructional design model outlined in Chapter 2. Participants’ references to logical sequencing, reinforcement of prior learning, and increasing cognitive complexity correspond to the “Design” and “Development” phase of ADDIE, while their reflections on practical application and feedback reflect the “Implementation” and “Evaluation” phases. The participant’s quotes thus represent an example of how the programme fits within a systems-based instructional model.

These findings illustrate how participants identified gaps and redundancies in the programme’s curriculum. Four interrelated themes were identified, highlighting not only the transfer of learning into professional practice but also the conditions under which such transfer took place. The interpretation of the four themes in relation to the quantitative findings from Question 18 and the Full Range Leadership Model will take place in Chapter 5, enabling methodological triangulation.

4.7 Overall Satisfaction and Recommendations

This subsection (Section G of the questionnaire) adopts a mixed-methods approach. Question 19 generated qualitative data, on perceived satisfaction for the leadership academy

programme, while Questions 20 and 21 generated qualitative data, on the perceived most valuable aspects of the programme and recommendations on improvements. The integration of both open and closed-ended questions is consistent with a convergent mixed-method design (Creswell, 2014, pp. 238 – 239).

19. Overall, how satisfied are you with the NSOU Leadership Academy Programme?

This data-set provides insights to the participants' level of satisfaction from the programme.

Data are provided in the table below:

Very dissatisfied	1
Dissatisfied	1
Neutral	7
Satisfied	47
Very satisfied	52
No Reply ²⁵ :	12
Mean:	4.37
Standard Deviation:	0.69

Table 30: Participants' Overall Satisfaction

Mean (4.37) shows that the average satisfaction with the programme was high. This finding provides an overall strong endorsement of the programme. Standard deviation of 0.69 (medium) indicates that the responses were somewhat varied.

Question 20 - What aspects of the programme do you consider most valuable?

While question 19 captured the participants' satisfaction of the programme, Question 20 provides an opportunity to elaborate on these perceptions by identifying specific aspects of the curriculum that are consider most valuable.

This set of data was analysed with the established six-step process for qualitative research (Creswell, 2014, pp. 219-222). Replies were downloaded from Qualtrics and read, so an initial understanding of recurring ideas and patterns could be established. After this, data was inserted in NVivo. The following graphic is a word cloud created using NVivo. The graphic provides a visual representation of all the "most frequent" words used throughout the entire dataset, with the size of each font reflecting how often they were used. It also

²⁵ No replies were populated with the Mean: 4.37, to allow analysis.

S/N	THEMES	S/N	THEMES	S/N	THEMES
19	exchange	39	networking	59	personal experience
20	exercises	40	officers		

Table 31: Question 20 NVivo Auto-Coded Themes

Following the initial auto-coding in NVivo, a manual code refinement was conducted. Overlapping and semantically similar codes were consolidated and restructured into higher-order themes, to ensure conceptual clarity and reduce redundancy. This process is presented in the following figure:

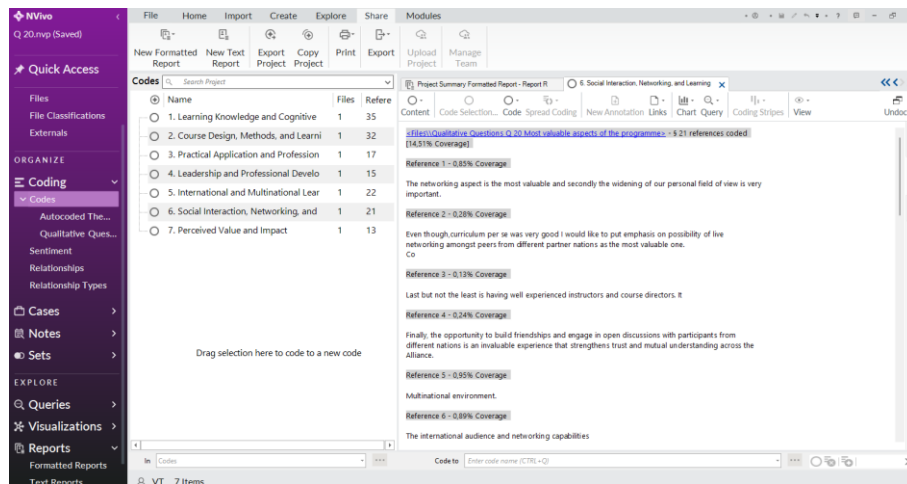


Figure 14: Question 20 Manual Code Refinement

The new manual coded themes were reviewed against the dataset, confirming that they were grounded to the data. To enhance the analysis' rigor, the coding process involved iterative comparison between themes and data, ensuring internal coherence and clear distinction amongst them. Exemplar quotations were selected to show typical rather than extreme cases, to support the analysis' credibility and transparency. This process resulted in a hierarchical coding framework, analysed in the following table and presented in the following figure:

Themes	Rationale/Description	Manual Coding Themes	Exemplar Quotes
Concept Critical thinking Education Insights Knowledge Learning Mindset Perspective Theoretical foundations Theoretical knowledge Theory Thinking Understanding	What participants learned and how their thinking developed	1. Learning Knowledge and Cognitive Development	<i>"I believe NSOU equips us with both academic skills and the essential knowledge of NATO SOF frameworks needed to strengthen our capacity and capability. Examples such as Command Teams Leadership, Force generation, transformation, Neustadt and Mays' "thinking in time" and the 9 system Archetypes." (P37)</i>

Themes	Rationale/ Description	Manual Coding Themes	Exemplar Quotes
Assignments Case studies Course Different approach Discussions Distant learning Exercises Learning phase Level Methods Phase / fase Processes Time	How learning was structured and delivered	2. Course Design, Methods, and Learning Processes	<i>“For me, the topics covered were very valuable. The assignments also forced me to delve deeper, and the connections between the topics were well-thought-out. Furthermore, the interaction during the ADL phase challenged me to explore the topics more deeply. Furthermore, the RL phase completed the whole process.”</i> (P04)
Challenges Experience Forces Officers Personal experience Professionals Real Skills Work	Real work and practice	3. Practical Application and Professional Experience	<i>“- possibility to talk to well-experienced people - sharing the ideas and approaches during the practical exercises”</i> (P42)
Development Growth Leadership Mindset Possibilities Roles Skills	Professional and personal growth	4. Leadership and Professional Development	<i>“From my perspective, the most valuable aspect of the programme is the combination of academic insight with real-world application, which enables deeper understanding and self-reflection. The course provides exposure not only to national but also international perspectives, thought processes, and critical viewpoints, enriching both discussion and personal growth. I particularly value the core content focused on leadership in complex operations, strategic planning, systems thinking, and alignment with organizational vision and mission. Finally, the opportunity to build friendships and engage in open discussions with participants from different nations is an invaluable experience that strengthens trust and mutual understanding across the Alliance.”</i> (P20)
Backgrounds Different countries Different nations Exchange International audience Multinational environment Nations Perspective	Assessment of diversity, international exposure, and exchange	5. International and Multinational Learning Environment	<i>“Mixing theory with practical examples and working in syndicates, participation of guest lectors with extensive knowledge of discussed subjects and multinational environment which is very beneficial to see how different nations might have different approaches to certain challenges.”</i> (P85)
Building Discussions Environment Group	Social and relational value of the programme	6. Social Interaction, Networking, and	<i>“The most of the distance learning assignments were really interesting and the feedback supported well personal development. The interaction and</i>

Themes	Rationale/Description	Manual Coding Themes	Exemplar Quotes
Instructors Networking Team		Learning Community	<i>discussions with other students during the residence learning phase were really good, also the visiting lecturers were mostly really good.” (P94)</i>
Effect Great value Possibilities Valuable	Value statements	7. Perceived Value and Impact	<i>“The in-person weeks were of significant value for network building. The instructors on the course were excellent, both credible professionals and good instructors.” (P33)</i>

Table 32: Question 20 Manual Code Refinement

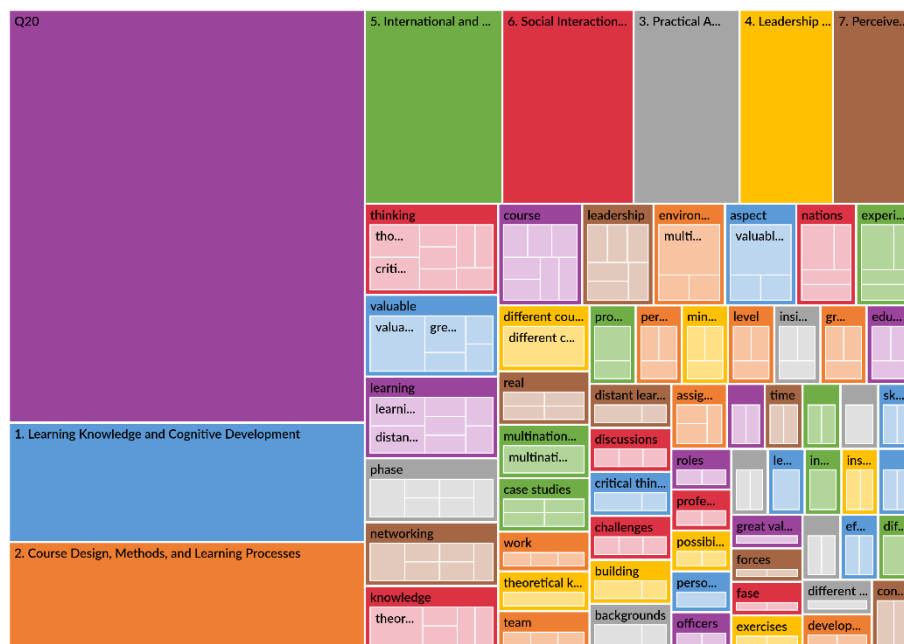


Figure 15: Question 20 Manual Code Refinement Compared by Numbers of Coding References

Seven interrelated themes were identified related to how participants identified the most valuable aspects of the programme. The interpretation of the seven themes in relation to the quantitative findings from Question 19, the qualitative findings of question 21, and the Full Range Leadership Model will take place in Chapter 5, enabling methodological triangulation.

Question 21 - What improvements would you recommend to better meet the programme’s objectives?

While question 19 captured the participants’ satisfaction of the programme and Question 20 provided an opportunity to elaborate on these perceptions by identifying specific aspects of

S/N	THEMES	S/N	THEMES	S/N	THEMES
8	day	25	leaders	42	studies
9	design	26	leadership	43	tasks
10	development	27	lessons	44	teams
11	discussions	28	level	45	thinking
12	examples	29	little bit	46	time
13	exchange	30	making	47	topics
14	exercises	31	members	48	understanding
15	experience	32	nations	49	unit
16	feedback	33	operation	50	war
17	forces	34	phase	51	work

Table 33: Question 20 NVivo Auto-Coded Themes

The initial auto-coding graphical representation is presented in the following figure:

course	time	future	understand	real	different	think	balanced	better	done	good	just	keep
		improvement	week	students	exercises	leaders	teams	theory	topics	also	apply	aspects
	practical				knowledge	making	assignment	forces	help	highly	instruct	like
		include	examples	studies			brief	participa	see	structure	theoretic	unit
sof	work	level	focus	well	strategic	nil	change	people	already	bit	case	commer
discussions	learning	none	nato	current	suggest	one	day	personal	applicat	continue	extend	face
leadership	operations	programme	phase	developm	tasks	special	decision	presenta	area	due	form	informat
							effective	program	attendee	etc	hard	lessons
									best	experier	increase	mainly
												may

Figure 17: Question 21 NVivo Auto-Coding Word Tree

Following the initial auto-coding in NVivo, a manual code refinement was conducted. Overlapping and semantically similar codes were consolidated and restructured into higher-order themes, to ensure conceptual clarity and reduce redundancy. The new manual coded themes were reviewed against the dataset, confirming that they were grounded to the data. To enhance the analysis' rigor, the coding process involved iterative comparison between themes and data, insuring internal coherence and clear distinction amongst them. Exemplar quotations were selected to show typical rather than extreme cases, to support the analysis' credibility and transparency. This process resulted in a hierarchical coding framework, analysed in the following table:

Themes	Rationale/Description	Manual Coding Themes	Exemplar Quotes
Course Day Design	Programme design (structure,	1. Course Design, Structure and Programme Level	<i>“The courses should qualify for ECTS credits.” (P03)</i>

Themes	Rationale/ Description	Manual Coding Themes	Exemplar Quotes
Form Future Level Program Phase Residential phase Time	form, phases, level)		
Assignments Assessments Case studies Examples Practical applications Special operations mission studies Studies Tasks		2. Teaching Methods, Learning Activities, and Assessment	<i>“Include decision making exercises with peer and instructor critiques of those exercises and decisions.” (P11)</i>
Discussions Exchange Group Members Questions Teams	Peer-to-peer interaction and exchange of views	3. Interaction, Discussion, and Exchange	<i>“Diversity on the teams, sometimes it is necessary to force mixing the teams, but with the insights from the instructors. One of the best outcomes I had from discussions with my peers.” (P59)</i>
Brief Feedback Guide Instructor Lessons	Teaching quality	4. Instructor Role, Guidance, and Feedback	<i>“I recommend adding more scenario-based exercises that replicate real crisis conditions and strengthening the integration between modules. More real-time instructor feedback during practical tasks would also improve the programme’s effectiveness and reinforce leadership development.” (P98)</i>
Development Leaders Leadership Proficiency Skills Thinking Understanding	Leadership and mindset	5. Leadership, Cognitive and Professional Development	<i>“A more dynamic assessment to test critical thinking rather than just a verbal briefing during which team members can hide in the background. Adding in a HPP element for both fitness and teamworking.” (P71)</i>
Forces Making Operation Unit War Work	Real-world applicability	6. Operational Relevance and Practical Orientation	<i>““I believe that a stronger combination of theoretical content and practical application would significantly improve the programme’s effectiveness. Some parts were overly theoretical, particularly the sections addressing future developments and long-term strategic trends. Given the rapid changes on today’s battlefields — as seen in the ongoing conflict between Ukraine and Russia — future SOF roles and capabilities need to be examined and integrated far more thoroughly. This cannot be driven solely by the participants, as most European nations have limited</i>

Themes	Rationale/ Description	Manual Coding Themes	Exemplar Quotes
			<i>operational experience in such environments.</i> <i>It would be highly valuable if NSOU provided structured assessments, insights, and consolidated lessons learned from the relevant divisions that are already analysing these developments. Incorporating this perspective into the curriculum would help students gain a clearer, more realistic understanding of how SOF must adapt in order to remain effective in future operational landscapes.” (P95)</i>

Table 34: Question 18 Manual Code Refinement

Six interrelated themes were identified related to how participants identified the most valuable aspects of the programme. The interpretation of these themes in relation to the quantitative findings from Question 19, the qualitative findings of question 20, and the Full Range Leadership Model will take place in Chapter 5, enabling methodological triangulation.

The results from Questions 20 & 21 also supported the theory behind Chapters 2's frameworks (transformational leadership development) by focusing on experiential learning & peer interaction as well as reflection which were both part of "individualized consideration" and "leader identity formation". Furthermore, the participants' suggestions for the use of scenarios to provide learners with real-world experiences and for feedback mechanisms to allow learners to be assessed and evaluated also support the "evaluation" stage of the ADDIE model which is the final stage of a training program that will assess whether or not the education was effective; it can then be used to make changes to future versions of the same educational program.

4.8 Group Comparisons Using Statistical Significances Tests

While in the previous sections (4.1 – 4.7) of this chapter descriptive statistics presented graduates' perceptions of the Leadership Academy programme, in this section inferential statistical analysis will determine whether these perceptions differ across participant groups and more particularly to determine whether perceptions of the programme's effectiveness

differ systematically between (A) Officers and Non-Commissioned Officers (participants' professional background) and (B) the programme's four courses (participants' stage of leadership development), while accounting for relevant participant characteristics. With the use of statistical significance tests, the research moves beyond simple description and evaluates if any observed difference reflects a pattern in the programme graduates' population.

A. Non-Commissioned Officers – Officers

As mentioned in paragraph 4.1, the total numbers of Officers and NCOs that participated in the research is as follow:

Non-Commissioned Officers	51
Officers	69

Table 35: Officers vs. NCO Research Participants

These two categories of personnel form two groups. The t-tests assume independence of observations and approximate normality of the outcome distributions. Given the sample size, t-test is reasonably robust to minor deviations from normality. With the null hypotheses being that there are no differences in the replies of the questionnaire's questions between them, an independent two sample t-test was conducted.

With a confidence interval of 95%, if $p > 0.05$, null hypothesis cannot be rejected, i.e. there are no statistically significant difference between the two groups (Creswell, 2014, pp.181-184). The results are presented in the following table:

Question	p-value	Null Hypothesis
5. To what extent has the Leadership Academy influenced your understanding of your role as a leader?	0.119	True
6. To what extent has the programme clarified your personal leadership philosophy?	0.123	True
7. How confident do you feel in your leadership abilities after completing the course(s)?	0.89	True
8. To what extent did the programme enhance your ability to make decisions under extreme uncertainty (VUCA/Complex Environments)?	0.281	True
9. To what extent has the programme prepared you to effectively engage with and lead Interagency and Multinational (cross-cultural) teams?	0.432	True
10. How significantly has the programme influenced your ability to successfully mentor and develop junior leaders within your command?	0.012	False
11. To what extent do you apply the strategic concepts taught in the academy to formulate new/improved organizational policies or standard operating procedures (SOPs) in your current role?	0.755	True

12. How well did the programme balance theoretical leadership models with the practical application required for SOF operations?	0.638	True
13. How has the programme improved your ability to lead teams in complex and dynamic environments?	0.781	True
15. How effective do you find the teaching methods and materials used?	0.581	True
16. For those who completed multiple courses, how well do the courses build upon each other?	0.194	True
17. How consistent and coherent did you find the curriculum across the four courses?	0.097	True
19. Overall, how satisfied are you with the NSOU Leadership Academy Programme?	0.544	True

Table 36: Independent t-test Results

B. Graduates per Course

To examine whether programme's stages differences exist when controlling for participants' educational background, ANCOVA models were estimated for each question. Prior to interpreting adjusted programme-STEP effects, the assumption of homogeneity of regression slopes was assessed by testing STEP x Education level interaction terms. These tests are presented in the following table:

Question	ANCOVA Test	p-value	Interpretation
5. To what extent has the Leadership Academy influenced your understanding of your role as a leader?	STEP 2 × Education Level	0.02	Significant
	STEP 3 × Education Level	0.6	Ok
	STEP 4 × Education Level	0.15	Ok
6. To what extent has the programme clarified your personal leadership philosophy?	STEP 2 × Education Level	0.64	Ok
	STEP 3 × Education Level	0.02	Significant
	STEP 4 × Education Level	0.01	Significant
7. How confident do you feel in your leadership abilities after completing the course(s)?	STEP 2 × Education Level	0.13	Ok
	STEP 3 × Education Level	0.01	Significant
	STEP 4 × Education Level	0.04	Significant
8. To what extent did the programme enhance your ability to make decisions under extreme uncertainty (VUCA/Complex Environments)?	STEP 2 × Education Level	0.52	Ok
	STEP 3 × Education Level	0.04	Significant
	STEP 4 × Education Level	0.00006	Significant
9. To what extent has the programme prepared you to effectively engage with and lead Interagency and Multinational (cross-cultural) teams?	STEP 2 × Education Level	0.11	Ok
	STEP 3 × Education Level	0.06	Ok
	STEP 4 × Education Level	0.052	Ok
10. How significantly has the programme influenced your ability to successfully mentor and develop junior leaders within your command?	STEP 2 × Education Level	0.23	Ok
	STEP 3 × Education Level	0.01	Significant
	STEP 4 × Education Level	0.002	Significant
	STEP 2 × Education Level	0.13	Ok

Question	ANCOVA Test	p-value	Interpretation
11. To what extent do you apply the strategic concepts taught in the academy to formulate new/improved organizational policies or standard operating procedures (SOPs) in your current role?	STEP 3 × Education Level	0.001	Significant
	STEP 4 × Education Level	0.002	Significant
12. How well did the programme balance theoretical leadership models with the practical application required for SOF operations?	STEP 2 × Education Level	0.02	Significant
	STEP 3 × Education Level	0.02	Significant
	STEP 4 × Education Level	0.0004	Significant
13. How has the programme improved your ability to lead teams in complex and dynamic environments?	STEP 2 × Education Level	0.27	Ok
	STEP 3 × Education Level	0.02	Significant
	STEP 4 × Education Level	0.00008	Significant
15. How effective do you find the teaching methods and materials used?	STEP 2 × Education Level	0.001	Significant
	STEP 3 × Education Level	0.0007	Significant
	STEP 4 × Education Level	0.007	Significant
16. For those who completed multiple courses, how well do the courses build upon each other?	STEP 2 × Education Level	0.29	Ok
	STEP 3 × Education Level	0.75	Ok
	STEP 4 × Education Level	0.92	Ok
17. How consistent and coherent did you find the curriculum across the four courses?	STEP 2 × Education Level	0.46	Ok
	STEP 3 × Education Level	0.48	Ok
	STEP 4 × Education Level	0.62	Ok
19. Overall, how satisfied are you with the NSOU Leadership Academy Programme?	STEP 2 × Education Level	0.04	Significant
	STEP 3 × Education Level	0.01	Significant
	STEP 4 × Education Level	0.01	Significant

Table 37: ANCOVA Tests

5. Discussion

5.1 Interpretation of Key Findings

The research's quantitative results revealed a consistency across ranks and courses. ANCOVA revealed that educational background is a moderator. Qualitative analysis explains how and why this moderation occurs.

Due to the fact that the t-tests were conducted across several questionnaire items, results were interpreted cautiously, with emphasis placed on consistent patterns across items, rather than isolated p-values. The results indicate that Officers and NCOs reported similar perceptions across all but one questionnaire items ($p > .05$), indicating that no significant differences can be measured between the two groups. This suggests a shared baseline experience in the programme. The exception was question 10 (mentoring and developing junior leaders), something that suggest that this domain differs between the two groups.

When participants' educational background was taken under consideration using ANCOVA, more nuanced patterns became apparent. Significant interaction effects appeared across many leadership domains, especially at advanced programme stages (STEPS 3 and 4). These findings indicate that educational background influences how participants engage and internalize leadership content, especially in areas such as decision-making under uncertainty, mentoring junior leaders, strategic application, and leadership philosophy.

A possible explanation for these patterns could be the different professional roles and educational background of the participants. Non-commissioned officers compliment frequently their officers as members of Command Teams, thus sharing similar operational responsibilities in planning, decision making and leadership of SOF Units. This shared foundation of professional experiences and responsibilities may have contributed to the absence of statistically significant differences between the two groups across most questionnaire items. This in term may indicate a common perception of the programme's value. Contrary to this, the differences in educational background appear to influence in turn how participants interpret and internalise the Leadership Academy programme's leadership concepts. Participants with higher levels of formal education may engage more readily with the theoretical frameworks of the strategic leadership models while those with more

practical educational backgrounds may emphasise more on the curriculum's operational application. Subsequently, participants' educational background is a moderator for the content translation into leadership confidence, mentoring abilities, and decision-making behaviours, especially at the more advanced levels of the programme.

Where STEP x Education level interaction was statistically significant ($p < .05$), the homogeneity of regression slopes assumption was violated; therefore, adjusted STEP main effects are not reported as the effect of programme stage varies according to participants' educational background. In these cases, results indicate moderation by educational background rather than a single adjusted STEP effect.

Where STEP x Education interactions were non-significant, the total ANCOVA model without interaction terms was used to interpret adjusted differences between programme courses. The absence of adjusted STEP differences where ANCOVA assumptions were met, combined with widespread moderation effects where they were not, indicates that programme structure is consisted, while learning depth varies according to participants' educational background at advanced stages. The results are presented in the following table:

Question	Leadership Domain	Step 2 vs Step 1	Step 3 vs Step 1	Step 4 vs Step 1	Interpretation of Adjusted Step Effects
Q5	Leadership role understanding	Not interpretable	No significant difference	No significant difference	Education moderates Step 2 effect
Q6	Leadership philosophy	No significant difference	Not reported (significant STEP × Education interaction) ²⁶	Not reported (significant STEP × Education interaction)	Education moderates advanced steps
Q7	Leadership confidence	No significant difference	Not reported (significant STEP × Education interaction)	Not reported (significant STEP × Education interaction)	Education moderates confidence gains
Q8	Decision-making under uncertainty (VUCA)	No significant difference	Not reported (significant STEP × Education interaction)	Not reported (significant STEP × Education interaction)	Education moderates advanced decision-making
Q9	Interagency & multinational leadership	No significant difference	Not reported (significant STEP × Education interaction)	Not reported (significant STEP × Education interaction)	Adjusted step effects valid; no differences
Q10	Mentoring junior leaders	No significant difference	Not reported (significant	Not reported (significant	Moderation at advanced stages

²⁶ NOTE: "Not Reported" indicates that adjusted STEP main effects are not presented due to a statistically significant STEP x Education interaction ($p < .05$), indicating moderation by educational background.

Question	Leadership Domain	Step 2 vs Step 1	Step 3 vs Step 1	Step 4 vs Step 1	Interpretation of Adjusted Step Effects
			STEP × Education interaction)	STEP × Education interaction)	
Q11	Strategic policy & SOP application	No significant difference	Not reported (significant STEP × Education interaction)	Not reported (significant STEP × Education interaction)	Education moderates strategic application
Q12	Theory–practice balance	Not interpretable	Not reported (significant STEP × Education interaction)	Not reported (significant STEP × Education interaction)	Strong moderation across all steps
Q13	Leading in complex environments	No significant difference	Not reported (significant STEP × Education interaction)	Not reported (significant STEP × Education interaction)	Education moderates complex leadership
Q15	Teaching methods & materials	Not interpretable	Not reported (significant STEP × Education interaction)	Not reported (significant STEP × Education interaction)	Andragogic impact moderated by education
Q16	Course progression & sequencing	No significant difference	No significant difference	No significant difference	Curriculum progression stable
Q17	Curriculum coherence	No significant difference	No significant difference	No significant difference	Curriculum coherence stable
Q19	Overall satisfaction	Not interpretable	Not reported (significant STEP × Education interaction)	Not reported (significant STEP × Education interaction)	Satisfaction moderated by education ²⁷

Table 38: Final ANCOVA Programme-STEP Effects (STEP 2 / STEP 3 / STEP 4 VS STEP 1), Controlling for Educational Level

The following table contains the summary of unadjusted and adjusted results:

Question	Leadership Domain	t-test Result	ANCOVA Result (Education Interaction)	Integrated Interpretation
Q5	Leadership role understanding	No difference	Step 2 × Education significant	Basic perceptions consistent; educational background shapes impact at early–mid stages

²⁷ Conceptual analysis:

- “No significant difference”: Final ANCOVA model without interaction and adjusted STEP effect not statistically significant ($p > .05$).
- “Not interpretable”: STEP x Education Interaction statistically significant ($p < .05$) and homogeneity of regression slopes violated, hence adjusted main effect not interpreted.

Question	Leadership Domain	t-test Result	ANCOVA Result (Education Interaction)	Integrated Interpretation
Q6	Leadership philosophy	No difference	Step 3 & 4 × Education significant	Advanced conceptual clarity depends on educational background
Q7	Leadership confidence	No difference	Step 3 & 4 × Education significant	Confidence gains are education-dependent at senior stages
Q8	Decision-making under uncertainty (VUCA)	No difference	Step 3 & 4 × Education significant	Higher education enhances absorption of complexity training
Q9	Interagency & multinational leadership	No difference	No significant interactions	Programme effective and consistent across backgrounds
Q10	Mentoring junior leaders	Significant difference	Step 3 & 4 × Education significant	Mentoring is a key differentiator influenced by both stage and education
Q11	Strategic policy & SOP application	No difference	Step 3 & 4 × Education significant	Strategic application requires higher cognitive readiness
Q12	Theory–practice balance	No difference	Step 2, 3 & 4 × Education significant	Andragogic effectiveness varies by education across all stages
Q13	Leading in complex environments	No difference	Step 3 & 4 × Education significant	Advanced leadership effectiveness moderated by education
Q15	Teaching methods & materials	No difference	Step 2, 3 & 4 × Education significant	Instructional design effective but differentially absorbed
Q16	Course progression & sequencing	No difference	No significant interactions	Strong curriculum scaffolding across all groups
Q17	Curriculum coherence	No difference	No significant interactions	Programme design is stable and fit for purpose
Q19	Overall satisfaction	No difference	Step 2, 3 & 4 × Education significant	Satisfaction increases with education at advanced stages

Table 39: Summary of Unadjusted (t-test) and Adjusted (ANCOVA) Results

Unadjusted comparisons indicate consistency across the programme's stages, while ANCOVA reveals that educational background significantly moderates learning outcomes in advanced leadership.

There were four themes identified by the thematic analysis of the open-ended survey data, that reflected participant's perceptions of the programme's impacts on leadership development, operational effectiveness, and curricular coherence and complemented/expanded upon the findings from the quantitative study:

Theme 1: Enhancements to Leadership Education and Self-Awareness

Responders reported consistently that the leadership academy programme enhanced their understanding of their leadership role and personal leadership philosophy. Their exposure to leadership theories, structured reflection and instructor-led discussions contributed to increased self-awareness and leadership identity formation (van Dick & Schun, 2010).

Theme 2: Operational Relevance and Practical Application

The curriculum was identified by graduates as directly applicable to the operational environments in which they worked particularly when making decisions under uncertainty or working as leaders of multinational teams.

Theme 3: Building Professional Networks

The ability to network with their peers, who represented multiple Allied and Partner Nations as well as multiple rank structures, was identified as a significant value-added component of the program that fostered a shared NATO SOF identity and professional networking.

Theme 4: Cumulative Curricular Design and Progression

While minor complaints were made about redundant content within the multi-level courses offered through the Leadership Academy Programme, most graduates recognized that the design of the program followed a cumulative logic and each successive level of the program built upon the foundational learning of its the previous levels.

Together, these four themes reinforce the quantitative findings and provide deeper insight into how the Leadership Academy programme achieves its intended outcomes.

These results combined suggest that while the Leadership Academy's programme delivers a coherent and consistent leadership development educational experience, the depth of learning and the perceived impact increases differentially, based on participants' educational experience, as the complexity of the programme increases.

We can interpret the above findings through the FRLM levels, as showed in the following table (Avolio, 1999 & Antonakis et al., 2003):

Level	Results
1. Surface	Consistent across all participants
2. Meso	Education-sensitive at STEP 3 and STEP 4 levels
3. Foundation	

Table 40: FRLM Mapping Table

5.2 Implications for Leadership Development in NATO SOF

Quantitative findings have important implications for leadership development within NATO Special Operations Forces. The perceptions, as described from descriptive analysis and t-tests, support the notion that the programme has developed a common leadership base among different participants. This is essential in the multinational SOF context, where interoperability and shared understanding are critical (NATO, 2025).

At the same time, ANCOVA results indicate that advanced leadership competencies – especially those that involve abstraction, complexity, and strategic judgment – are more readily developed by participants with stronger educational foundations. This finding reinforces the need to consider cognitive readiness alongside tactical experience, when developing senior NATO SOF leaders, especially in roles requiring organizational leadership and decision-making under uncertainty.

The participants' educational background appears to influence their learning outcomes by affecting their ability to engage with different types of the programme's instructional content. Those with higher levels of formal academic education are probably more accustomed to analytical reasoning and abstract conceptualisation. This may allow them to better interpret leadership frameworks like the Full Range Leadership Model. Conversely, those with more practice-oriented backgrounds may prefer the programme's experiential learning components, such as practical exercises and peer interaction. Subsequently, while the Leadership Academy programme appears to provide consistent learning opportunities across the participants' population, differences in educational background influence the participants' depth and pathways of understanding of the leadership concepts.

Finally, the absence of interaction effects for curriculum coherence indicates that the programme's structure itself is sound and accessible across all educational backgrounds, with only the learning outcomes' magnitude differing.

Quantitative findings concerning shared NATO identity, command team effectiveness, multinational engagement, networking, and trust, suggest that the programme functions as an interoperability enabler extending beyond procedural standardization. The evidence indicates that the programme supports interoperability at the cognitive and identity levels. Facilitating a shared leadership mind-set, common professional values, and mutual trust among multinational NATO SOF personnel (Asforth & Mael, 1989).

The ANCOVA findings, particularly those relating to mentoring junior leaders, demonstrate that at Special Operations Component Command (SOCC) and Executive levels (STEP 3 and STEP 4), operational experience alone is insufficient, and that advanced leadership effectiveness increasingly depends on structured cognitive development (Day & Hammond, 2001).

Leadership and Command Practice findings demonstrate a strong alignment between graduate's perceived leadership development and the reported application of leadership behaviours in operational contexts. Qualitative results from Question 13 indicate a moderate to high perceived improvement in their ability to lead teams in complex and dynamic environments, suggesting a positive contribution to leadership capability development. This quantitative trend is reinforced by qualitative data from Question 14. Participants provided real-world examples of leadership principles application when leading Units as command teams during operations. Statements like: *"I applied the skills from the programme in planning training activities, leading my team during demanding situations, and solving complex tasks where quick analysis and decision-making were required. The programme also helped me improve communication, task delegation, and priority setting."* (P50) indicate that leadership learning extended beyond conceptual understanding, to practical enactment.

The results from the study as viewed from the lens of FRLM appear to indicate a transformational leadership style and inspirational motivation. The responses of the participants to their perceived responsibilities in relation to their leader roles, level of role clarity, and their ability to influence others within their chain of command, appear to represent a greater capacity to lead by example and by purpose, two major aspects of transformational leadership. While the participants' responses about their command roles were related to elements of transactional leadership (such as performance-based leadership), they also indicated that they have the ability to inspire others to achieve organisational goals.

Thus, the combination of quantitative and qualitative results indicate that participants' leadership effectiveness was improved by their ability to apply transformational behaviours with appropriate transactional practices (a balance which can be especially useful in the context of complex operational settings).

The issue of decision-making and strategic thinking provided additional insight into how these perceptions of leadership effectiveness were applied in practice. While participants

indicated an overall improvement in leadership (Question 13), they also explained how that improvement was typically exhibited through better decision-making abilities; especially when decisions had to be made quickly under pressure or uncertainty (Question 14). Participants' decision-making processes appeared to become more formalised and deliberative as indicated by examples such as: *“During a multinational training event, I applied adaptive leadership and rapid decision-making skills from the programme to manage unexpected changes in partner-unit inputs. I adjusted priorities, reassigned tasks, and maintained clear communication to keep the team aligned and the mission on schedule.”* (P98). Such statements suggest that leadership development was not limited to interpersonal influence but extended to cognitive and analytical processes, essential for operational leadership.

Within the Full Range Leadership Model, these findings correspond closely with the transformational leadership dimension of intellectual stimulation, whereby leaders encourage followers' critical thinking, problem solving, and adaptive decision-making (Hogg, 2016). The reported use of adaptive strategic, operational, and tactical thinking indicates that participants internalized frameworks that support reflective and forward-looking leadership behaviour.

In addition, references to planning, time management, and prioritization also reflect aspects of transactional leadership like active management, i.e. leader's proactive intervention to prevent problems. This combination suggests that effective leadership in complex environments requires adaptive thinking and structured control mechanisms.

Combined, the quantitative perception of improved leadership effectiveness and the qualitative evidence of enhanced decision-making practices indicate that the programme supported the development of leadership behaviours consistent with the full spectrum of the FRLM, reinforcing the value of integrating cognitive skills' development in leadership education.

5.3 Curriculum Strengths and Areas for Improvement

There were several strengths of the program's curriculum demonstrated through the data collected. All three aspects of the curriculum—perceived curriculum coherence, effective

course sequencing, and teacher quality—were consistently high and similar among all program stages. These results demonstrate the program is structured and andragogically effective.

The ANCOVA analysis of interaction effects has highlighted the potential to modify the current design, rather than starting over. More particularly, students from a lower educational background could be provided with additional preparation and support prior to the study of the more difficult content in STEPs 3 and 4. These adjustments would improve the effectiveness of the program but could be done by modifying or adding to the existing format and components of the programme.

The quantitative analysis results from Questions 16 and 17 indicated that students, who had progressed through more than one program stage, generally experienced the curriculum to be both cumulative and cohesive. A high mean score on course sequencing (Mean=4.30), and a high mean score on curriculum consistency (Mean=4.43), suggested that the general approach in the design of the programme supported the development of progressive knowledge and reinforced the key leadership concepts throughout its stages.

Qualitative findings from Question 18 support these quantitative results as they provide an example of how participants used this cumulative logic in their everyday work. Although most respondents indicated a coherent learning structure for the program, some indicated that while there were areas where the repetition was seen as inadequate progression: *“I noticed some redundancy in the decision-making under uncertainty topics, which appeared in several modules”* (P98). When this is considered alongside the strong quantitative endorsement of curriculum coherence, it provides a nuanced interpretation (NATO, 2025).

The leadership Academy’s programme is well-structured and logically sequenced but would benefit from greater differentiation and experiential depth at advanced stages. This integration of findings demonstrates the value of methodological triangulation in identifying both strengths and areas for enhancement within leadership education programmes (Creswell, 2014).

5.4 Contribution to Military Education Theory and Practice

This research contributes to military education theory by demonstrating the limitations of relying solely on unadjusted group comparisons, when evaluating professional military education programmes. While the conducted t-tests suggested overall consistency, ANCOVA and qualitative integration revealed educational background dependent differences that would otherwise remain hidden. This emphasizes the importance of incorporating learner's characteristics into programme evaluation models, especially in advanced military education context.

6. Conclusions and Recommendations

6.1 Summary of Research Outcomes

This research's goal was to assess whether the NSOU Leadership Academy's Programme is fit-for-purpose across its four courses. Findings indicate that there is a wide perception of participants, that the programme is coherent, effective, and valuable. Additionally, high levels of satisfaction are reported across its courses. While unadjusted analyses suggest minimal differences amongst programme's stages, adjusted analyses revealed that educational background moderates the perceived impact of advanced leadership development outcomes.

Answers to the Research Question of Sub-Chapter 1.3

This section returns explicitly to the three research questions presented in Sub-Chapter 1.3 and provides evidence-based answers derived from the convergent mixed-methods design (quantitative results and qualitative themes analysed separately and then integrated).

Research Question 1: To what extent does the NSOU Leadership Academy Programme influence graduates' individual leadership identity?

The research indicates that the programme has a positive influence on the leadership identities of the participants, including how they understand their role as leaders and their own personal philosophy of leadership. This was demonstrated quantitatively through the generally favourable evaluation of items that measured leadership identity; this was also supported qualitatively by the Theme 1 (Leadership Education and Identity Development), which consistently noted an increase in self-awareness, organized reflection and conceptual clarity of both role and philosophy of leadership. Together, the quantitative and qualitative findings provide evidence for the conclusion that the program provides meaningful development of leadership identity, consistent with the identity-oriented mechanisms discussed in the theoretical framework.

Research Question 2: *Is there a statistically significant relationship between participation in the programme and graduates' perceived leadership effectiveness and organizational impact in their operational units?*

Qualitative results were similar across each of the domains of leadership effectiveness and organisational impact, and generally favourable views of participation and its contribution to overall leadership effectiveness were documented. Unadjusted comparisons across all four course levels (STEP 1 to 4) and rank categories showed similarly favourable comparative results; however, adjusted analysis (ANCOVA) showed that educational background moderates perceived gains at advanced stages (STEP 3 and STEP 4), for some leadership domains. These qualitative results are supported by Theme 2 (Operational Relevance and Practical Application), which found that graduates used program knowledge in a variety of ways to inform their decision making and application of leadership practices in uncertain environments, mentoring relationships, communication strategies and other forms of organizational leadership practices in real operation contexts. Overall, the evidence suggests that participants perceive the program as having operational relevance and being an effective means of developing leadership skills, but that the extent to which they perceive the program as having contributed to their professional development at the advanced stage may vary based on their educational background.

Research Question 3: *How do multi-course graduates perceive the consistency and cumulative logic of the curriculum across the four stages of the programme?*

The results indicate that multi-course students view the programme's curriculum as a continuous or sequential series of related courses, thereby supporting the intention to have a structured and developmental approach to education as provided by it. The quantitative data revealed that the students evaluated the curriculum sequencing and progression very favourably, and unadjusted comparisons did not reveal any significant differences; therefore, there appears to be little difference in the students' perception of the program's overall design.

The qualitative data also supported the conclusions of the Theme 4 (Curriculum Coherence and Cumulative Progression), which explained how each successive course builds upon previous knowledge, while it also acknowledged limited examples of when the repetition of

similar material was viewed as reinforcing additional skills versus redundant and potentially counterproductive.

Overall, both the quantitative and qualitative results provide evidence that the programme has a coherent and cumulative design, providing a basis for differentiating advanced content from less advanced content through the use of additional experiential learning opportunities.

6.2 Practical Recommendations for the NSOU Leadership Academy

The following synthesis summary table maps each research objective of the survey to a corresponding recommendation:

Research Objective	Key Findings	Evidence of Data	Recommendation
Assess whether the Leadership Academy influences graduates' leadership identity	The programme positively strengthens participants' understanding of their role as a leader and clarifies their personal leaderships philosophy	High satisfaction levels in survey questions 5,6, and 7. Qualitative responses emphasising increased self-awareness	Continue emphasising leadership identity development modules and reflective learning exercises within the curriculum
Examine the programme's organisational and operational impact	Graduates report applying programme's concepts in their Units via mentoring, Standard Operating Procedures (SOPs) development, and leadership practices	Positive responses to questions 8, 9, 10, 11, and 12	Integrate follow-up alumni engagement to capture long-term organisational impact (Kirkpatrick Model's ²⁸ levels 3 and 4)
Evaluate programme's influence on leadership effectiveness	Graduates report improved confidence in their leadership and decision-making abilities under uncertainty (VUCA)	Responses to questions 13 and 14	Expand scenario-based learning and decision-making simulations that replicate operational uncertainty
Assess the programme's andragogy	The programme's instructional design and delivery quality were very high	Responses to question 15	Continue using high quality instructors
Assess the cumulative logic and coherence of the four-course	Multi-course graduates perceive a progressive structure where courses build upon each-other	Responses from participants who attended multiple course levels on questions 16, 17, and 18	Not reported (significant STEP × Education interaction)

²⁸ The Kirkpatrick four-level framework for evaluation effectiveness of training and learning programmes is globally recognised. Its four levels are (Cahapay, 2021):

Level 1: Reaction, it measures how participants react to the training

Level 2: Learning, it assesses the increase in knowledge, skills, or attitudes.

Level 3: Behaviour, it evaluates the extent to which participants apply what they learned on their job.

Level 4: Results, it measures the final tangible results of the training, such as increase in productivity, and sales.

Research Objective	Key Findings	Evidence of Data	Recommendation
curriculum of the programme			
Identify areas of improvement in programme delivery	Participants highlighted the networking opportunities and the practical exercises as the programme's highly valuable components	Qualitative themes identified in NVivo coding (networking, practical exercises, and leadership education) on questions 19, 20, and 21	Increase structured multinational collaboration exercises and peer learning opportunities

Table 41: Research's Synthesis Summary Table

The following strategic roadmap table for the Leadership Academy development presents the suggested curriculum updates timeframe:

Time Horizon	Strategic Initiative	Purpose
Short Term (1-2 years)	Expand scenario-based decision-making exercises	Strengthen graduates' ability to operate in VUCA environments
Short Term (1-2 years)	Increase structured multinational collaboration exercises	Improve interoperability and leadership effectiveness within multinational SOF teams
Short Term (1-2 years)	Intergrade additional reflective leadership identity modules	Reinforce leadership self-awareness and personal leadership philosophy development
Medium Term (3-5 years)	Develop alumni follow-up mechanisms to assess long-term leadership impact	Enable systematic evaluation on how programme graduates apply leadership concepts in operational units
Medium Term (3-5 years)	Introduce advanced simulation environments for strategic decision-making training	Improve SOF leaders' preparation for complex operational and strategic leadership challenges
Long Term (5+years)	Expand NSOU Leadership Academy as a NATO reference model for SOF leadership education	Position NSOU as the central hub for multinational SOF leadership development across the Alliance
Long Term (5+years)	Integrate the Leadership Academy programme with broader NATO professional military education initiatives	Position NSOU as the central hub for multinational leadership development across the Alliance and ensure alignment with evolving NATO strategic education and leadership development frameworks

Table 42: Strategic Roadmap table for the NSOU Leadership Academy Development

The findings from this study have shown overall consistency among all participants' perceptions. Therefore, there were no significant changes to be made with the programme's structure. In addition to the findings of this study, three targeted enhancements may be needed for the programme to increase participants' learning outcomes.

The first enhancement suggested was that the programme provide additional structured cognitive development opportunities at its later stages, using preparatory cognitive scaffolding. This recommendation is supported by the findings of the ANCOVA indicating

that at STEPs 3 and 4 of the programme, educational background had an effect on the effectiveness of the participant's leadership, specifically when mentoring junior leaders.

In addition, the results of this study provided further evidence of the current literature on adult learning theory, which indicates that the curriculum should be expanded to include more scenario-based command team decision exercises. These recommendations are supported by the Qualitative Theme of Questions 14 and 21.

Finally, the findings also support preserving the current mixed Officer -NCO class and cohort design. This recommendation is supported by the t-test results showing no rank-based differences.

Based on these identified gaps, it is recommended that at least one structured scenario-based decision practical exercise, explicitly designed for command teams is incorporated into each of the programme's courses. These exercises will progressively reflect the increasing level of tactical, operational, and strategic challenges faced by NATO SOF. For the implementation of this proposal, there are two things that require consideration. The first is that the Officers-NCOs ratio in the NATO SOF Junior Leaders Course – STEP 1 and the NATO SOF Mid-Level Leaders Course – STEP 2 participants is not equal, as a result of the reality that the actual Officers-NCOs ratio in that rank's range is also not equal. This could mean that it will be more realistic to implement this proposal only in the two last courses, where the equality in Officers' and NCOs' numbers will allow the creation of real-life or simulated command. The second aspect that requires consideration is andragogy. There are practical challenges for assessing and providing feedback on 16 command teams, as the maximum class size per course is 32. This could be addressed with the use of technology (simulations). A proposal for one practical exercise per course can be found in Appendix B.

6.3 Research Limitations and Critical Self-Reflection

An obvious limitation of this study arises from the fact that the researcher has additionally two roles as faculty member and curriculum developer within NSOU Leadership Academy. This insider position enabled a deeper understanding of the programme's intent, structure, and operational context but at the same time it also carries the risk of unconscious bias in the framing of the research questions and the interpretation of the analysis. As measures of

mitigation, the data collection relied on anonymous responses, standardised instruments, and a mixed-methods design. This allowed quantitative results to be triangulated with qualitative themes.

Another limitation for this study could be the fact that it relies primarily on self-reported perceptions of leadership identity, effectiveness, and organisational impact. While such perceptions are relevant in research on leadership development, they may differ from externally observable behavioural change, operational performance, and organisational impact. There is also the risk that participants' responses may have been influenced by social desirability bias, given the elite culture of the Special Operations Forces community.

Although the sample size was adequate for the selected statistical analysis and reflected a broad range of ranks and experience levels, it did not cover all NATO nations with SOF capabilities. Some NATO members have not participated at all in the programme, or their numbers of graduates was so small that had no representation in the research. Additionally, the specialised nature of NATO SOF, limits the generalisation of the findings beyond similar elite military organisations. Caution should therefore be exercised when extrapolating the results to conventional military organisations or non-military leadership environments.

Additionally, while questionnaire's structure was informed by the Full Range Leadership Model and the social identity theory, there is no instrument that can fully capture the depth and complexity of the topic of leadership identity formation. Therefore, some psychological and unconscious dimensions of leadership development may remain unexplored.

Furthermore, the cross-sectional design of the study captures participants' reflection as a snap-shot, at a single point in time. But leadership identity development is longitudinal by nature. As a result, a future research would be required to assess the durability of the current research's results and long-term operational impact of the programme.

The value of this research's findings is not undermined by the recognition of the above limitations. On the contrary, it situates those findings within the appropriate analytical boundaries. By acknowledging these constraints, this study demonstrates methodological transparency. It also provides a foundation for a more robust future research on leadership development of the Allied Special Operations Forces.

The findings of this research suggest that the Leadership Academy programme's structure could be used as a model to other NATO educational institutions. Its integrated approach, of combining officers and non-commissioned officers within a common leadership

development pathway, and emphasis on multinational collaboration, experiential learning, and leadership identity development can address several gaps identified in existing professional military education programmes. As the Alliance continues to adapt to the ever increasingly complex modern operational environment, similar leadership development frameworks could be considered by other NATO educational and training institutions aiming to strengthen Command Teams' cohesion, interoperability, and leadership quality across the Alliance.

6.4 Suggestions for Future Research

Building on the limitations identified in sub-chapter 6.3, future study should take an approach that considers the program's design and student characteristics when comparing groups and should use a multi-variable approach to compare the interaction of the program's design and student characteristics. Also, using long term study designs (i.e., longitudinal) and qualitative methods can provide a greater understanding of how leadership development translates from the program to continued operational effectiveness over time.

The results of the mentoring and junior leader development differences (Question 10) for officers versus NCO's show that this capability may have a large experiential component and as such would need to be looked at in both future research and in the design of curricula in order to support all students.

Additionally, future research could follow graduates who have gone on to command positions within NATO. This would allow for an examination of the relationship between leadership education and operational outcomes for the alliance.

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Appendix A: Research Questionnaire

Assessing the North Atlantic Treaty Organization Special Operations University's Leadership Academy Programme

Participant Information Sheet

You are invited to take part in the research study named above. Before you decide whether to participate, it is important that you understand the purpose of the study and what your participation will involve. Please take some time to read the following information carefully and consider it before making your decision.

Purpose of the study:

I am conducting a research study as part of my Master of Business Administration (MBA) programme. The title of my dissertation is:

“Assessing the North Atlantic Treaty Organization Special Operations University's Leadership Academy Programme: Evaluating if and how the NSOU Leadership Academy's Professional Development Programme is Fit-for-Purpose in Building the Future NATO Special Operations Forces Nimble-Minded Warriors.”

The aim of this research is to critically evaluate whether the NSOU Leadership Academy's professional development programme is fit-for-purpose in achieving its intended objectives. More specifically, it will assess how the programme influences individual leadership identity, effectiveness, and organizational impact. It would also explore the consistency and cumulative logic of the curriculum across the four courses.

Why you have been invited to participate:

You have been invited to participate in this study because you are an attendee of the NSOU Leadership Academy courses, along with your fellow participants.

Do you have to take part?

Participation in this study is entirely voluntary. You have the right to withdraw from the study at any time. If you choose to withdraw, your responses will be excluded from the analysis and your questionnaire will be destroyed, unless your data have already been anonymised and incorporated into the overall analysis. In that case, it will no longer be possible to identify or remove your individual data.

Your participation will involve:

You will be asked to complete a questionnaire, which is expected to take approximately 30 minutes to complete. There are no known risks associated with participating in this study. If you have any questions or would like further information about the study, please do not hesitate to contact me.

What are the benefits associated with taking part in this survey?

You will have the opportunity to draw on both your prior professional experience and the knowledge you have gained through completing this programme to critically evaluate it. Your feedback will help identify areas where the current programme could be improved, benefiting future participants. In doing so, you will contribute to the ongoing development of the Allied and Partner Nations' Special Operations Forces, serving as an agent of positive change.

What will happen to the results of the research project?

The findings of this research will be used to support the ongoing enhancement of the NSOU Leadership Academy's educational programme and may also be published online in an academic journal article.

How will your data and privacy be protected?

All research data will be stored in accordance with both University policies and NATO data protection regulations. The data will be password-protected and held within a NATO-classified work account, accessible only to the Lead Researcher. All data will be securely retained for two years following the completion of the researcher's degree, after which it will be permanently deleted.

Who is involved in the project?

This research is being conducted as part of the requirements for the Master of Business Administration (MBA) degree and represents an independent academic project. The study has been reviewed and approved by the School of Social Sciences at the Hellenic Open University and by NATO Special Operations University.

If you have any questions, please contact me at the emails:

Thank you for taking time to read the information sheet.

Evangelos Trasanis

Section A: Participant Background

1. Please state the course details (click all that apply):

NATO SOF Junior Leaders Course - STEP 1

NATO SOF Mid-Level Leaders Course - STEP 2

NATO SOF Senior Leaders Course - STEP 3

NATO SOF Executive Leaders Course - STEP 4

2. What is your highest level of educational qualification?

High School Diploma or equivalent (age 16 years old)

Post High School / College level qualification (age 18 years old)

Bachelor's Degree

Master's Degree

PHD

3. How many years have you served in the military?

0 - 5

5 - 10

10 - 15

15 - 20

20 - 25

25 - 30

30 - 35

35 - 40

More than 40

Never served

4. What is your current rank?

OR-4 to OR-5, Corporal to Sergeant and equivalent ranks

OR-6 to OR-7, Staff Sergeant to Sergeant First Class and equivalent ranks

OR-8, Master Sergeant and equivalent ranks

OR-9, Sergeant Major and equivalent ranks

OF-1 to OF-2 Second Lieutenant to Captain and equivalent ranks

OF-3 to OF-4, Major to Lieutenant Colonel and equivalent ranks

OF-5 Colonel and equivalent ranks

OF-6 to OF-10 Brigadier General to General and equivalent ranks

Section B: Leadership Identity

5. To what extent has the Leadership Academy influenced your understanding of your role as a leader?

Not at all

Slightly

Moderately

Significantly

Extremely

6. To what extent has the programme clarified your personal leadership philosophy?

Not at all

Slightly

Moderately

Significantly

Extremely

7. How confident do you feel in your leadership abilities after completing the course(s)?

Not confident

Somewhat confident

Confident

Very confident

Extremely confident

Section C: Organizational and Tactical Impact

8. To what extent did the programme enhance your ability to make decisions under extreme uncertainty (VUCA/Complex Environments)?

Not at all

Slightly

Moderately

Significantly

Extremely

9. To what extent has the programme prepared you to effectively engage with and lead Interagency and Multinational (cross-cultural) teams?

Not at all

Slightly

Moderately

Significantly

Extremely

10. How significantly has the programme influenced your ability to successfully mentor and develop junior leaders within your command?

Not at all

Slightly

Moderately

Significantly

Extremely

11. To what extent do you apply the strategic concepts taught in the academy to formulate new/improved organizational policies or standard operating procedures (SOPs) in your current role?

Not at all

Slightly

Moderately

Significantly

Extremely

12. How well did the programme balance theoretical leadership models with the practical application required for SOF operations?

Not at all

Slightly

Moderately

Significantly

Extremely

Section D: Leadership Effectiveness

13. How has the programme improved your ability to lead teams in complex and dynamic environments?

Not improved

Slightly improved

Moderately improved

Greatly improved

Exceptionally improved

14. Provide examples of situations where you applied skills learned in the programme.

[Open text field]

Section E: Andragogy

15. How effective do you find the teaching methods and materials used?

Very ineffective

Ineffective

Neutral

Effective

Very effective

Section F: Curriculum Consistency and Cumulative Logic

16. For those who completed multiple courses, how well do the courses build upon each other?

Not at all

Poorly

Adequately

Well

Very well

I participated in only one course

17. How consistent and coherent did you find the curriculum across the four courses?

Very inconsistent

Somewhat inconsistent

Neutral

Somewhat consistent

Very consistent

I participated in only one course

18. Are there any gaps or redundancies in the curriculum you would like to highlight?

[Open text field]

Section G: Overall Satisfaction and Recommendations

19. Overall, how satisfied are you with the NSOU Leadership Academy Programme?

Very dissatisfied

Dissatisfied

Neutral

Satisfied

Very satisfied

20. What aspects of the programme do you consider most valuable?

[Open text field]

21. What improvements would you recommend to better meet the programme's objectives?

[Open text field]

Conclusion

Thank you for your time and effort in answering this questionnaire. If you require to provide any further feedback, please contact me at:

Appendix B: Practical Exercises Proposal

1. NATO SOF Junior Leaders Course – STEP 1: Tactical (SOTU) level

Core Leadership Purpose:

Build trust, ethical thinking, and Officer-NCO command team integration under stress.

Learning Objectives:

After completion, the Command Team will be able to:

1. Demonstrate Commander – CSEL decision-making under time pressure.
2. Balance mission success, force protection, and ethics.
3. Leverage NCO “ground truth” to inform Commander’s decisions.

Scenario: Compromised SOF Patrol Extraction

Context: A SOF patrol conducting partner-force advising is compromised during exfiltration. Intelligence indicates that the enemy is approaching the patrol’s extraction route. Air assets are delayed due to severe weather conditions.

Command Team’s Dilemma:

- Commander: Decide whether to hold position, break contact, or request support fire.
- CSEL: Assess troop fatigue, morale, and discipline and advise on Unit’s cohesion.

Learning Focus:

- Tactical risk vs force preservation
- Ethical responsibility for personnel vs ethical responsibility for the mission.

2. NATO SOF Mid-Level Leaders Course – STEP 2: Tactical/Operational (SOTG) level

Core Leadership Purpose:

Synchronise multiple teams while managing uncertainty.

Learning Objectives:

After completion, the Command Team will be able to:

1. Prioritise competing missions based on operational risk and strategic intent.
2. Intergrade cognitive and information domains effects into operational decisions.
3. Maintain cohesion and authority across multinational and joint environments.
4. Communicate intent clearly downward and laterally under ambiguity.

Scenario: Simultaneous Mission Failure

Context: Two subordinate SOTUs report simultaneously mission degradation. One due to equipment failure and the other due to host-nation interference.

Command Team's Dilemma:

- Commander: Prioritise resources, re-task forces, or abort one (or both) mission(s).
- CSEL: Assess leadership strain among subordinate Command Teams and advise on sustainment risks.

Learning Focus:

- Operational prioritisation.
- Distributed leadership oversight.
- Command Team communication discipline.
-

3. NATO SOF Senior Leaders Course – STEP 3: Operational (SOCC) level

Core Leadership Purpose:

Lead through systems, culture, and indirect control.

Learning Objectives:

After completion, the Command Team will be able to:

1. Balance operational tempo with long-term force readiness and sustainability.
2. Identify the correct ethical drift, without degrading operational effectiveness.
3. Adapt operational design to political and strategic shifts.
4. Exercise Institutional leadership beyond direct command authority.

Scenario: Compromised SOF Patrol Extraction

Context: A host-nation announces a sudden political change restricting NATO SOF force's freedom of movement mid-campaign.

Command Team's Dilemma:

- Commander: Re-design the campaign or recommend strategic disengagement.
- CSEL: Assess second and third-order effects on alliances, trust, and force legitimacy.

Learning Focus:

- Adaptive operational design.
- Political-military integrations.
- Leadership under strategic uncertainty.
-

4. NATO SOF Executive Leaders Course – STEP 4: Executive (JSOC-SOCOM) level

Core Leadership Purpose:

Exercise stewardship of the SOF profession and Alliance cohesion.

Learning Objectives:

After completion, the Command Team will be able to:

1. Align tactical success with strategic and political legitimacy.
2. Make decisions considering Alliance unity, civil-military relations and public trust.

Scenario: Compromised SOF Patrol Extraction

Context: A tactical successful NATO SOF operation causes strategic friction at NAC level, threatening Alliance's unity.

Command Team's Dilemma:

- Commander: Defend the mission's operational necessity or accept the political consequences.
- CSEL: Advise on institutional accountability, force identity, and long-term trust.

Learning Focus:

- Strategy vs operations.

- Civil-military balance.

Command Team Decision Making Rubric (for all 4 courses):

Dimension	Emerging	Proficient	Advanced	Exemplary
Commander–CSEL Alignment	Parallel thinking; limited integration	Coordinated but role-blurred	Clear role differentiation	Seamless mutual reinforcement
Decision Quality	Reactive; narrow framing	Sound but incomplete analysis	Balanced risk assessment	Systems-level judgment
Ethical Reasoning	Implicit or reactive	Explicit but limited	Integrated into decisions	Ethical leadership shapes outcomes
Communication of Intent	Ambiguous or inconsistent	Clear downward messaging	Multi-directional clarity	Strategic narrative coherence
Reflection & Adaptation	Defensive	Acknowledges gaps	Actively adapts	Demonstrates learning agility

Assessment Method: Peer Review and instructor’s feedback.

Author’s Statement:

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