

Wargaming at HMCS Venture: Enhancing Naval Officer Training

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Abstract: This article explores the integration of educational wargaming at *HMCS Venture*, the Royal Canadian Navy's officer training school, focusing on the Introduction to Naval Operations (INO) Course. The study examines the establishment of wargaming at *HMCS Venture* and details its application through various wargames such as *Naval Kriegsspiel*, *The Operational Wargame System (OWS)*, *AFTERSHOCK*, and *Command: Modern Operations (CMO)*. It analyzes the educational outcomes and student engagement derived from these simulations, utilizing both analytical data and anecdotal evidence from the course. The article highlights the evolution of instructional methods from traditional lectures to interactive wargaming, emphasizing its role in enhancing junior Naval Warfare Officers' understanding of naval operations and warfare. The INO Course serves as a pivotal training ground for future officers, fostering a culture of wargaming and operational knowledge within the Royal Canadian Navy.

Keywords: educational wargaming, naval operations, officer training, *HMCS Venture*, Royal Canadian Navy

1. INTRODUCCIÓN

This article explores the efficacy of educational wargaming at His Majesty's Canadian Ship (HMCS) *Venture*, the Royal Canadian Navy's (RCN) officer training school, specifically focusing on its impact on junior Naval Warfare Officers (NWOs) in introducing fundamental naval operations and warfare concepts. The effectiveness of this instructional method is substantiated through both analytical examination and anecdotal evidence gathered from the Introduction to Naval Operations (INO) Course conducted at HMCS *Venture*. It is important to note that this discussion pertains solely to the educational wargaming practices at HMCS *Venture* and does not include those employed throughout the broader Canadian Armed Forces (CAF).

Located in Victoria, British Columbia, HMCS *Venture* is integral to the RCN's mission to prepare dedicated sailors to lead with professionalism, skill, and comprehensive knowledge, within both the RCN and the CAF at large. The school's curriculum encompasses various facets including NWO training, Naval Technical Officer instruction, second language proficiency, leadership development, and conduct and cultural courses. Serving as a cornerstone for all Naval Officers within the RCN, HMCS *Venture* is mandatory for officers at some point in their career.

The establishment of wargaming at HMCS *Venture* will first be examined, followed by an exploration of the INO Course and the specific wargames utilized for instructional purposes, including *Naval Kriegsspiel*, *The Operational Wargame System (OWS)*, *AFTERSHOCK*, and *Command: Modern Operations (CMO)*. Finally, empirical data derived from the INO Course will be presented to demonstrate the successful integration and impact of educational wargaming in training junior NWOs at HMCS *Venture*.

This article adopts Dr. Peter P. Perla's definition of wargaming, describing it as:

“A warfare model or simulation that does not involve the operations of actual forces, in which the flow of events affects and is affected by the decisions made during the course of those events by players representing the opposite sides (Perla, 2022).”

^{NT} Her Majesty's Canadian Vessel

2. DEVELOPMENT

Naval Warfare Officer Training and the Introduction of Wargaming at HMCS *Venture*

“If we can get 1 out of every 10 YouTube videos that the students watch to be related to the naval environment, then we are already ahead.”

Captain(N) Stefanson, RCN.

The role of NWOs within the Royal Canadian Navy (RCN) encompasses the management and strategic direction of maritime operations involving ships, submarines, aircraft, and associated systems. NWOs are uniquely positioned as the sole officers capable of commanding RCN vessels (Government of Canada, n.d.). Prior to assuming operational roles, prospective NWOs undergo foundational training at HMCS *Venture*. This training is structured into three key phases: NWO II, NWO III, and NWO IV. Following basic training in Saint-Jean-sur-Richelieu, Québec, all Naval Cadets and Officers commence their training at HMCS *Venture* with NWO II, an essential introduction to naval officer duties focusing on shipboard skills and maritime safety. Subsequently, NWO III builds upon these fundamentals by emphasizing Officer of the Watch responsibilities and tactical maneuvers and operating in consort with other vessels. NWO IV further refines mariner skills through pilotage navigation and introduces foundational aspects of naval operations and warfare. Training progresses incrementally through a structured approach of classroom instruction, simulation exercises using Naval and Bridge Simulators (NABS), and practical sea experience. Adhering to a "crawl, walk, run" methodology aimed at comprehensive skill development and readiness for fleet assignments having completed NWO IV. While awaiting their phase training, the students will take part in other On-the Job Training (OJT) experiences, and this is when the INO course currently takes place.

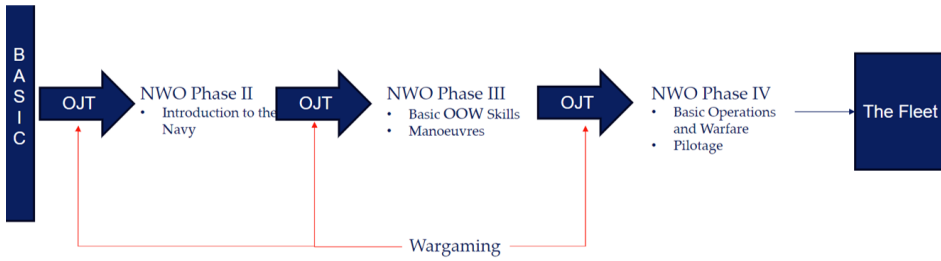
The incorporation of wargaming into the curriculum at HMCS *Venture*, particularly through the INO Course, originated from observations and insights gained during a presentation by Commander Steffen Berge Øverland of the Royal Norwegian Naval Academy regarding the institutionalization of wargaming for naval and fleet tactics (Georgetown University Wargaming Society, 2022). The INO Course was conceived with three primary objectives:

First, to enhance the introduction of naval warfare and operations by reducing reliance on traditional lecture formats. Currently, approximately 60 hours of lectures are dedicated to naval warfare during NWO IV; the INO Course aims to

minimize lecture-based learning in favor of interactive educational wargaming as the primary instructional tool.

FIGURA 1

Stages of basic training at HMCS "Venture".



Source: HMCS "Venture".

Second, the course aims to cultivate professional curiosity among junior Naval Officers. By immersing students in command scenarios involving naval, air, and land assets, the course encourages deeper exploration of unit capabilities and strategic implications. The competitive nature of wargaming fosters enthusiasm and a proactive pursuit of knowledge pertaining to naval tactics, strategy, and operational dynamics.

Third, the INO Course seeks to embed wargaming within the culture of junior officers and the broader RCN. While wargaming has a historical presence within the RCN, its integration into everyday practice across the CAF remains sporadic and compartmentalized. Current wargaming activities are primarily conducted at CAF staff colleges, Warfare Centres, and individual unit levels, fostering a fragmented approach. Establishing a cohesive wargaming culture within the RCN is pivotal to bridging existing gaps and elevating the operational and tactical preparedness of junior officers through structured and immersive learning experiences.

Reflecting on personal experiences, initial perceptions of wargaming at HMCS *Venture* often invoked associations with recreational tabletop games such as *Dungeons and Dragons* or *Warhammer 40K*. However, within military contexts, wargaming assumes a more pragmatic role, commonly involving Course of Action comparisons during Operational Planning Procedures. This distinction reveals a need to refine perceptions and integrate wargaming as a disciplined tool for education, enhancing decision-making, operational readiness, and strategic foresight within the RCN.

The evolution of NWO training at HMCS *Venture*, coupled with the introduction of the INO Course and its emphasis on educational wargaming, represents a progressive stride towards advancing naval operational excellence within the RCN. By augmenting traditional instructional methods with interactive wargames and competitive scenarios, the RCN not only prepares its junior officers for complex operational environments but also fosters a culture of continuous learning and innovation essential for future naval leadership. As the RCN continues to refine its training methodologies and embrace emerging technologies, the integration of wargaming stands poised to play a pivotal role in shaping the next generation of Naval Warfare Officers equipped to navigate evolving maritime challenges with confidence and competence.

The Introduction to Naval Operations Course

The Introduction to Naval Operations Course, conducted over a two-week period at HMCS *Venture*, serves as a training module designed to augment the warfare teachings of NWO IV. Referred to colloquially among Naval Officers at HMCS *Venture* and on the West Coast as the "wargaming course," the INO Course is tailored to optimize learning outcomes through a controlled environment with a preferred class size of ten students. These small numbers facilitate effective management of class dynamics and allows each participant to play a significant role in the planning and execution of the wargames.

The first week of the INO Course is dedicated to tabletop wargaming, utilizing professional wargames, such as *Naval Kriegsspiel* and *AFTERSHOCK*. Unlike their counterparts in the Canadian Army, junior Naval Officers receive limited initial training in Battle Procedure (BP) and the Operational Planning Process (OPP) until they attain the rank of Lieutenant (Navy). The INO Course attempts to mitigate this gap by providing a refresher on BP and an introduction to OPP concepts, followed by a Tactical Exercise Without Troops (and Ships) (TEWT(S)). Subsequently, students engage in *Naval Kriegsspiel*, integrating theoretical knowledge with practical application.

A core objective of the INO Course is to cultivate a robust culture of wargaming within the RCN. To achieve this, the curriculum includes sessions elucidating the history and principles of wargaming, supplemented by PowerPoint presentations and instructional YouTube videos. Wednesday morning features an in-depth exploration of the Western Approaches Tactical Unit (WATU) and its significance, drawing insights from presentations such as those by Sally Davis, co-author of the Derby House Principles, which promote diversity and inclusion in professional wargaming (Georgetown University Wargaming Society, 2021). The

remainder of the week is devoted to immersive scenarios with *Naval Kriegsspiel* and *AFTERSHOCK*, fostering practical understanding and operational thinking among participants.

The second week of the INO Course shifts focus to Command: Modern Operations (CMO), a commercial off-the-shelf computer simulation game. Early iterations of the course revealed that extended daily sessions of CMO led to student fatigue and disengagement. Consequently, subject matter expert (SME) briefs were integrated during afternoon sessions to enrich understanding of naval warfare domains beyond introductory levels. These briefings encompassed topics delineated in the course schedule, offering students opportunities for direct interaction with senior officers and civilian experts from across the RCN and Government of Canada, thereby broadening their organizational knowledge base. The course culminates with an unexpected examination to evaluate comprehensive understanding and retention of course materials.

Sample INO Course Schedule

	Monday 10 July	Tuesday 11 July	Wednesday 12 July	Thursday 13 July	Friday 14 July	Monday 17 July	Tuesday 18 July	Wednesday 19 July	Thursday 20 July	Friday 21 July	
08:00:00	Introduction	History of wargaming and resources	Western Approaches Tactical Unit Brief	Naval Kriegsspiel - Scenario 2	Aftershock	Intro to CMO	CMO tutorials	CMO Scenarios	CMO Scenarios	Surprise Exam	
09:00:00	Battle Procedure Refresh										
10:00:00	TEWT(S)	Naval Kriegsspiel - Scenario 1	Naval Kriegsspiel - Scenario 2 Orders and BP			CMO tutorials					
11:00:00											
12:00:00	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	
13:00:00		Naval Kriegsspiel - Intro Scenario	Naval Kriegsspiel - Scenario 1	Naval Kriegsspiel - Scenario 2	Aftershock	Week 1 AAR	Influence Operations Brief	Conduct of Hostilities at Sea Brief	Detect to Engage Brief	Navigation Warfare Brief	Week 2 / Course AAR
14:00:00											
15:00:00											
16:00:00											

Source: HMCS "Venture".

Central to the instructional framework of the INO Course are the Derby House Principles, named after the wartime headquarters of WATU in Liverpool, England. WATU's pioneering wargaming efforts during the Second World War significantly influenced anti-submarine tactics and contributed to Allied victory in the Battle of the Atlantic (PAXsims, n.d.). Aligned with cultural change initiatives, these principles underscore commitments to diversity, inclusion, and ethical conduct within professional wargaming settings.

THE DERBY HOUSE PRINCIPLES:
Promoting diversity and inclusion through our standards, opportunities, and organizational activities.
Explicitly condemning sexism, racism, homophobia, and other forms of discrimination within wargaming and broader contexts.
Advocating for increased participation and visibility of underrepresented groups in professional wargaming.
Soliciting and considering feedback from colleagues to enhance our commitment to diversity and inclusion.
Demonstrating ongoing commitment through regular assessments and future-oriented discussions (PAXsims, n.d.).

Source: PAXsims, n.d

To nurture a vibrant wargaming culture within the RCN, the INO Course integrates modified rules derived from those of Fight Club International, thereby establishing links between students and the broader professional wargaming community:

INO COURSE RULES
<ol style="list-style-type: none"> 1. Engage in discussions about wargaming. 2. Respect the confidentiality of compartmented gaming activities. 3. Uphold the Derby House Principles—zero tolerance for discrimination, bullying, or harassment. 4. Embrace failure as a learning opportunity and prioritize innovation. 5. Share insights and knowledge freely. 6. Challenge conventional thinking in a supportive environment conducive to experimentation. 7. Pursue personal and professional growth through continuous learning and adaptation. 8. Cultivate an enjoyable learning environment focused on enhancing warfighting capabilities and personal development

Source: Fight Club LLC, 2024.

Naval Kriegsspiel: The Cornerstone of the INO Course

“Now the great secret of its power lies in the existence of the enemy, a live vigorous enemy in the next room waiting feverishly to take advantage of any of our mistakes, ever ready to puncture any visionary scheme, to haul us down to earth.”

- Captain William McCarty Little, 1912

Naval Kriegsspiel stands at the forefront of the INO Course, serving as its principal educational wargame. Initially adapted from a version used at the Royal Norwegian Naval Academy, the Canadian iteration of *Naval Kriegsspiel* has been tailored to meet the specific instructional needs of HMCS *Venture*. Designed as an unclassified game, it can be played on any surface capable of accommodating a standard naval chart. Its rules, currently in their second iteration, maintain consistency in concept: each turn approximates one hour of operational time, with nautical miles represented at a scale of 1mm on standard charts.

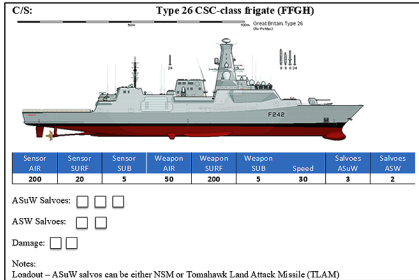
The first version of the Canadian rules relied on a simple six-sided dice (d6) system, segmented into four phases per turn. However, student feedback highlighted the desire for increased realism beyond what the d6 engagement system could provide. In response, the rules underwent revision, incorporating the more sophisticated OWS combat system. This update expanded the scope of the wargame to include Electronic Warfare (EW), Influence Operations (IO), Information Warfare (IW), media considerations, and if needed, advanced Anti-Submarine Warfare (ASW) rules while preserving ease of play.

Phases of the Canadian Rules adapted from the Naval Kriegsspiel.

VERSION 1 PHASES	VERSION 2 PHASES
Movement	Electronic Warfare (EW)
Detection	Movement
Engagement	Detection
Battle Damage Assessment (BDA) and Planning	Engagement
	Battle Damage Assessment (BDA)
	Planning

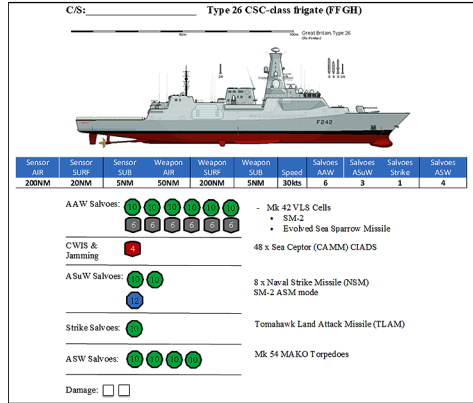
Source: HMCS “*Venture*”.

FIGURE 2
Anti-Submarine Warfare Rules for the Vessel
Game Version 1



Source: HMCS "Venture".

FIGURE 3
Anti-Submarine Warfare Rules for the Vessel
Game Version 2



Source: HMCS "Venture".

The three scenarios of *Naval Kriegsspiel* unfold within the Decisive Action Training Environment (DATE), overlaid across Western Canada (United States Army Training and Doctrine Command, n.d.). This setting mirrors operational environments that future exercises will entail, which their Army counterparts will already be very familiar with. These scenarios, while increasing in complexity, encapsulate the comprehensive curriculum covered by 60 hours of lectures and PowerPoint presentations in NWO IV. The initial scenario, following on the TEWT(S), introduces foundational *Naval Kriegsspiel* principles through a Blue Task Force attempting to secure the Juan De Fuca Strait and open the Port of Vancouver. Subsequent scenarios escalate in scale and challenge: Scenario 1, adapted from the original Norwegian design, involves a force-on-force engagement for regional naval dominance off Vancouver Island. Scenario 2 expands further - spanning from southern Vancouver Island to Haida Gwaii, pitting two Red Task Forces and a convoy that they are to escort, against a smaller Blue Force attempting to intercept the enemy convoy while also trying to maintain maritime control.

MAP 1

Scenario of the Naval Kriegsspiel at the INO Course

Source: HMCS "Venture".

* The Area of Operations outlined in red.

The course is split in half, and the students are organised based on Composite Warfare Doctrine, allocating the students warfare commander roles (Department of the Navy, 2010). One student assumes the position of the Composite Warfare Commander (CWC), while the four others take the roles of the following Principle Warfare Commanders (PWCs):

- ASWC: Antisubmarine Warfare Commander
- ASuWC: Antisurface Warfare Commander
- AAWC: Anti-air Warfare Commander
- IOWC: Information Warfare Commander

After each scenario, the students will switch sides and pick a different warfare commander roll to fill. The introduction of Composite Warfare Doctrine within the INO Course aligns with pre-existing student practices and facilitates broader comprehension of naval Command and Control (C2) applications outside of their own ship.

IMAGE 1
Red IOWC/AAWC watches as a Blue Force player rolls the dice for a missile attack during an advanced ASW scenario of the Naval Kriegsspiel.



Source: Photo by Lt1 Lt1 Brannigan, RCN

IMAGE 2
Use of the 10 meter by 6 meter map during a Naval Kriegsspiel INO game...



Source: Photo by Captain Kucher, RCN

Naval Kriegsspiel sessions predominantly utilize standard nautical charts, complemented at HMCS Venture by a uniquely sized 10-meter by 6-meter chart—the largest in the RCN—used for larger-scale wargames. Employing 3D and resin-printed models at 1/1100 scale for ships and submarines, and 1/300 scale for aircraft, further enhances student familiarity with visual identifications and silhouettes of Canadian, Allied, and foreign naval assets.

Starkly contrasting to lecture-based learning in NWO IV, the INO Course integrates *Naval Kriegsspiel* dynamically into its instructional framework. Teaching points emerge organically during gameplay, contingent upon student decisions and situational developments rather than a pre-set sequence. This approach fosters contextual learning and critical thinking, enriched by multimedia resources such as YouTube videos. For instance, upon executing a Harpoon missile attack in-game, students will pause to view footage of a real-life Harpoon strike, reinforcing the direct linkage between simulated actions and practical outcomes.

Responding to Disasters: *AFTERSHOCK*

Incorporating *AFTERSHOCK* into the INO Course responds to the growing spectrum of operations conducted by the CAF and RCN, which extends beyond traditional warfare scenarios to encompass humanitarian, natural disaster, and environmental response efforts. Whether engaged with the Disaster Assistance Response Team (DART), domestic operations like Op Lentus, or deployed overseas as exemplified by HMCS *Vancouver* in 2016, RCN personnel frequently participate in humanitarian assistance and disaster response (HADR) missions (Media Relations - Department of National Defence, 2016). *AFTERSHOCK*, modeled on real-world events such as the 2004 Indian Ocean tsunami and the 2010 Haiti earthquake, simulates a complex humanitarian crisis, offering participants a glimpse into the initial stages of emergency response and recovery (Brynen, 2015).

Participants in *AFTERSHOCK* are deliberately provided minimal initial information and stringent time constraints, reflecting the chaotic and stressful conditions typical of early crisis response. As the scenario unfolds (akin to actual HADR missions) the students collaborate to formulate responses and coordinate across various organizations. While *AFTERSHOCK* cannot fully replicate the complexities of real-world disaster response, it serves to highlight key challenges that naval officers may encounter in such scenarios, thereby enhancing their preparedness and understanding of operational dynamics in crisis situations.

Command Modern Operations:

During the second week of the INO Course, Command: Modern Operations (CMO) assumes prominence. A commercial off-the-shelf computer wargame developed by MatrixGames, it is widely used around the world, including by the US armed services, NATO, allied military services, and numerous governmental and non-governmental organizations. CMO offers a comprehensive platform for cross-domain operations spanning historical conflicts from 1945 to projected future scenarios (MatrixGames, n.d.).

The students engage with CMO through a series of 30 tutorials and scenarios, progressing from basic Anti-Surface Warfare (ASuW) exercises, to commanding multiple Task Forces in expansive multi-domain warfare environments covering extensive nautical expanses. Despite its steep learning curve, CMO features a massive asset database that enhances the students' proficiency in unit recognition and identification. Moreover, the game introduces RADAR symbology and builds on the use of NATO codewords and terminology crucial to contemporary naval operations.

CMO complements tabletop exercises by providing a digital platform for ideas and operational plans developed during *Naval Kriegsspiel* sessions. Unlike the tabletop format, CMO allows participants to iteratively refine tactics and explore alternative courses of action through repeated mission attempts. This capability fosters a deeper exploration of tactical decision-making under varying conditions, thereby reinforcing lessons learned from tabletop scenarios.

Following completion of the CMO segment, many students express a desire to return to *Naval Kriegsspiel* - seeking to apply insights gained from digital simulations to practical tabletop applications. This iterative approach underlines the integrative role of CMO within the INO Course, bridging theoretical concepts with practical applications in naval warfare education.

Data and Results

Upon completion of the INO Course, students are given an unexpected extended version of the NWO IV warfare exam, aimed at minimizing post-hours study time and assessing the efficacy of educational wargaming in delivering warfare instruction. When given this exam on NWO IV, the students would have on been in the RCN, on average, for 2 years and have received roughly 60 hours of dedicated warfare lectures and briefings. During the INO Course, the students are presented the exam after having completed 34 hours of warfare learning, with roughly only six hours of PowerPoint lectures, the remainder being practical,

scenario-based learning. The cohort composition varies significantly, with 50% of students pre-NWO II, 34% pre-NWO III, and 16% pre-NWO IV.

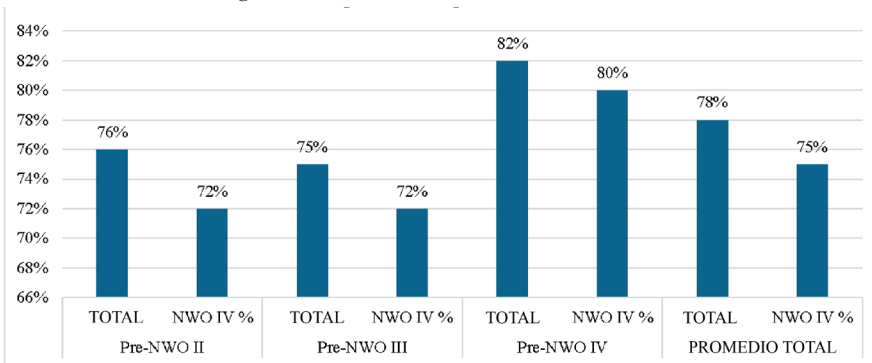
TABLE 1
Breakdown of INO students by level of training for INO serials 001 - 006

SERIAL	PRE-NWO II	PRE-NWO III	PRE-NWO IV	TOTAL
001	9	1	1	11
002	4	2	2	8
003	6	5	0	11
004	6	3	0	9
005	2	2	6	10
006	2	7	0	9
Total	29	20	9	58

Source: HMCS "Venture".

The exam comprises 41 questions covering diverse areas of naval warfare, including Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASuW), Anti-Air Warfare (AAW), NATO codewords, and unit identification. Of these, 20 questions are directly replicated from the NWO IV warfare exam, while the remaining 21 either match or exceed the NWO IV standard. A passing grade for both exams is set at 70%.

TABLE 2
INO Exam Overall Average Score



Source: HMCS "Venture".

Table 2 presents the overall average scores for the INO exam categorized by students' training phases; the right column of each section is the average scores for questions replicated from the NWO IV exam. The table also includes the total average across all students.

TABLE 3
INO Course Average Score by serial

	COURSE AVERAGE SCORE							
	PRE-NWO II		PRE-NWO III		PRE-NWO IV		OVERALL AVERAGE	
	% OVERALL	NWO IV %	% GRAL.	NWO IV %	% GRAL.	NWO IV %	% GRAL.	NWO IV %
Serial 001	68%	69%	55%	58%	76%	83%	67%	69%
Serial 002	80%	71%	62%	52%	87%	79%	77%	68%
Serial 003	83%	80%	91%	87%			87%	83%
Serial 004	82%	75%	63%	64%			73%	71%
Serial 005	71%	73%	60%	64%	81%	81%	75%	76%
Serial 006	70%	58%	79%	76%			77%	72%

Source: HMCS "Venture".

Table 3 presents the average scores for each serial (INO Course 001-006) categorized by students' training phases, with an additional column for the overall average across all students.

TABLE 4
INO Course Pass Rate

	COURSE PASS RATE							
	PRE-NWO II		PRE-NWO III		PRE-NWO IV		TOTAL	
Total Students	21 / 29	72.00%	13/20	65.00%	9/9	100%	43/58	74.10%
Serial 001	4/9	44.44%	0/1	0.00%	1/1	100%	5/11	45.40%
Serial 002	4/9	100.00%	1/2	50.00%	2/2	100%	7/8	87.50%
Serial 003	4/9	83.30%	5/5	100%			10/11	90.90%
Serial 004	4/9	83.30%	1/3	0.33%			6/9	66.66%
Serial 005	4/9	100.00%	1/2	50.00%	6/6	100.00%	9/10	90.00%
Serial 006	4/9	50.00%	5/7	71.00%			6/9	66.66%

Source: HMCS "Venture".

Table 4 outlines the pass rates for each serial and the cumulative pass rate for the first six INO serials.

The INO course has demonstrated significant success, achieving an overall pass rate of 74%, with a perfect pass rate among pre-NWO IV students. The performance of pre-NWO III students in serials 001, 002, and 005, represented by smaller numbers, exert notable influence on the overall average. Among those pre-NWO III students who successfully passed, they achieved an average score of 80%. Additionally, pre-NWO IV students, who are the target audience, achieved a 100% pass rate, attaining an overall exam average of 81.3% with an 81% average specifically on the NWO IV exam questions - closely aligning with the average performance expected on the actual NWO IV warfare exam. These outcomes underscore the effectiveness of the INO course in preparing naval officers across different stages of their training, particularly highlighting its impact on enhancing learning outcomes for early-career officers.

Having Fun While Learning... the Horror

The INO Course challenges the misconception that serious learning cannot coexist with enjoyment. Observing any serial of the course reveals students deeply engaged and enthusiastic, actively participating in scenarios and eager for more. Their burgeoning interest in naval warfare and operations often extends beyond scheduled hours, with many students conducting independent research and passionately advocating for their plans based on detailed assessments of available units and weapon systems. Feedback from participants consistently reflects high satisfaction and include frequent inquiries about future coursing.

The course environment, adhering to rules of Fight Club, fosters a "safe-to-fail" atmosphere. Here, students feel empowered to experiment with ideas and openly share their successes and failures without fear of ridicule. These discussions provide fertile ground for instructors to reinforce key teaching points, linking theoretical concepts to practical application in naval operations.

A notable lesson emerged during one course, encapsulated in the motto "Remember New York." During a CMO scenario titled "Delta Force," the student was tasked with locating and neutralizing two Soviet ballistic missile submarines near New York City. After nearly exhausting the allotted two-hour timeframe conducting exhaustive ASW patrols and deploying sonobuoys across vast swathes of ocean, the student concluded, just moments before the scenario's end, that the submarines were inexplicably absent. Immediately thereafter, the submarines launched their ballistic missiles, devastating New York City and resulting in mission failure. This dramatic turn of events prompted a reflective discussion on

the challenges of ASW, underscoring the difficulty in detecting submarines and their potential threat magnitude.

Despite the simulated catastrophe, the incident served as a poignant educational experience, reinforcing the profound impact submarines can exert in naval operations. Additionally, it highlighted the complexities and risks inherent in ASW missions, leaving a lasting impression on the student.

3. CONCLUSION

“I thought a Harpoon was what you stabbed a whale with.”^{NT2}

A/SLt _____, INO Student

The implementation of educational wargaming at HMCS *Venture* has proven to be a resounding success in enhancing the training of junior NWOs within the RCN. Through the INO Course, HMCS *Venture* has pioneered a curriculum that shifts away from traditional lecture-based learning to immersive, scenario-based wargaming. This shift has not only demonstrated significant improvements in knowledge retention but has also fostered a culture of curiosity and professional growth among its participants. The INO Course at HMCS *Venture* stands as a testament to the transformative power of experiential learning. Replacing a substantial portion of traditional PowerPoint lectures with hands-on wargaming exercises has successfully engaged students in practical applications of naval warfare and operations. These exercises, including tabletop wargames like Naval Kriegsspiel, AFTERSHOCK, and the computer-based simulation CMO, have allowed NWOs to develop critical decision-making skills in a controlled, yet realistic, environment.

The course has achieved remarkable results in terms of student performance. Participants, ranging from pre-NWO II to pre-NWO IV stages of their training, have demonstrated an overall pass rate of 74% on the INO exam, with pre-NWO IV students achieving a perfect pass rate. This success highlights the advantage of wargaming in establishing the building blocks to prepare NWOs for the complexities of naval operations.

^{NT} The commentary is a pun on the confusion of the English term harpoon, known as the hunting instrument (whose English translation is harpoon) and the name of the Harpoon anti-ship missiles.

Beyond academic achievements, the INO Course has nurtured a vibrant learning community at HMCS *Venture*. Students actively engage in discussions, research, and planning during exercises. The enthusiasm and dedication shown by participants reflect a genuine interest in naval warfare and operations, laying a solid foundation for their future roles as naval officers.

Looking ahead, the integration of educational wargaming into officer training at HMCS *Venture* sets a precedent for the broader adoption of experiential learning methods within the Royal Canadian Navy, and potentially across the Canadian Armed Forces. By embracing innovation and adapting to modern educational approaches, HMCS *Venture* continues to uphold its mission of preparing professional, skilled, and knowledgeable naval officers capable of leading with confidence in diverse operational environments.

Finally, the INO Course at HMCS *Venture* not only fulfills its educational objectives but also instills a culture of wargaming that promotes critical thinking, adaptability, and collaboration among future leaders of the RCN. HMCS *Venture* remains at the forefront of the educational methodological evolution - ensuring that its officers are equipped with both theoretical knowledge and practical skills essential for success in contemporary naval operations

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