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**The Future of Training Development and Delivery:  
The RCN Must Lead the Way Into a Constant Open Education Work Environment**

**Lieutenant-Commander Patrick Fournier**

**JCSP 48**

**Exercise Solo Flight**

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## **THE FUTURE OF TRAINING DEVELOPMENT AND DELIVERY: THE RCN MUST LEAD THE WAY INTO A CONSTANT OPEN EDUCATION WORK ENVIRONMENT**

### **INTRODUCTION**

Knowledge is the ultimate individual enabler. It is also why an institution such as the Canadian Armed Forces (CAF) takes this opportunity to quality control every aspect of who, what, when, where, why and how it provides Doctrine, Individual Training and Education (IT&E), Collective Training (CT) and Operational Training (OT), and institutional education to its people. Enabled with monopole control, an institution such as the CAF has the ability to influence and meter its people's knowledge subjects, consumption and program. It also ensures that individual's mind are shaped to think in a desirable way. The CAF excels in this particular institutional control domain, especially when it comes to managing growth in its specialty fields – Defence and Security. Real life results speak for themselves where it is not uncommon to hear that “the CAF punches above its weight class.”

The Royal Canadian Navy (RCN), charged with ensuring delivery of its maritime and naval specialty, has an opportunity to become an unmatched leader in the education space by fostering an open, continuous and flexible learning environment. Already exploring for training development and delivery strategies which are driven by advances in technology<sup>1</sup>, the RCN must capitalise on existing systems and challenge its processes

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<sup>1</sup>Canadian forces College. “Canadian Forces College – JCSP Research Paper Topic List.” (CF 502 – Solo Flight, Topic 165, p. 23) <https://mars.cfc.forces.gc.ca/CFCLearn/course/view.php?id=249>

which determine when and how it makes professional knowledge available along one's career. In short, all knowledge from entire RCN career curriculums of the training spectrum, doctrine and policy need to be made available to all RCN personnel via an easy to consume delivery means tailored to its future generations.

This persuasive piece will explore this topic in two parts. The first will set current state conditions as understood by the author. The Latter will propose that the moment is ripe for action in achieving a permanently engaging learning work environment. This opportunity demonstrated through an argument by demonstrating a Gender Based Analysis Plus (GBA+) dichotomy of the current status quo, an argument for an open education work environment, and the requirement for tailored education to the future individuals of the RCN.

## **PART 1**

The RCN, similarly for all L1s, is entrusted the responsibility to deliver “Excellence at sea...by providing officers and sailors with the necessary knowledge, skills and attributes.”<sup>2</sup> In achieving this, the RCN has developed quite the substantial and robust Naval Training System (NTS) to achieve the desired outcome of the previous statement. Its driving documentation lies in the content of the Future Naval Training System (FNTS) and its Concept of Operations (CONOPS). These documents “...bring together all elements of the Naval training spectrum and link them to other RCN and CAF

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<sup>2</sup>Royal Canadian Navy, *Royal Canadian Navy – Future Naval Training System Strategy*, July 2015, p.i.

FD, FG, and FE systems in order to provide the RCN with coherent, sustainable, well supported and agile means of generating naval forces.”<sup>3</sup> It also quite efficiently identifies key stakeholders and supporting mechanisms which allow for optimal understanding of this functional coexistence. It also exposes potential friction points between adjacent Authorities, Responsibilities and Accountabilities of the various entities further specified in NAVORD 4500-0 – Individual and Collective Training Policy. There are many other additional naval policies which ensure governance for a coordinated effort leads to desirable success, but further exploration into these would not bring any further necessary light to the issue being framed. It is obvious that the RCN has everything in place to ensure it can achieve excellence at sea while building its comprehensive future fleet.

Looking at the make up of the Future Fleet and other training requirements to meet Canadian security and defense at home and abroad, the RCN is in the process of approving itself a refreshed procurement Strategic Context Document – System of Training & Operational Readiness Modernization (STORM)<sup>4</sup> which is well anchored into Strong Secure Engage. The STORM document itself provides the direction how the RCN plans to take its NTS into the FNTS by enabling the RCN modernisation (future ships) which includes the required technological IT&E enablers. The product of which is a project Statement of Requirements – Future Naval Training System (FNTS)<sup>5</sup>. Knowing

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<sup>3</sup>Royal Canadian Navy, *Royal Canadian Navy – Future Naval Training System Strategy*, July 2015, p.1.

<sup>4</sup>Royal Canadian Navy, *Strategic Context Document – System of Training & Operational Readiness Modernization (STORM)*, Project Approval documentation V1.2, RDIMS #476634, (Draft).

<sup>5</sup> Royal Canadian Navy, *Statement of Requirements – Future Naval training System (FNTS)*, National Defence, V1.3, RDIMS #1161708, 27 April 2021.

itself as an ageing institution, the RCN ensured it amalgamated all potential requirements of training identifiable through the governance in its CONOPS by ensuring it evolves into a state of the art fleet with fully integrated technological training means. It is safe to say that the RCN, through its NTS systems of systems, is working towards a successful ushering of a Future Fleet which takes into consideration all necessary stakeholders to meet the objective along with state of the art technologically enabled training development and delivery solutions.

When moving away from the immediate RCN rule, we fall back into the institutional policies which are governed and managed by different Commands and/or authorities. Yet, nonetheless this superior policy continues to enable the RCN on its quest for excellence at sea. DAOD 5031-8 framework states “the [Canadian Forces Professional Development] CFPDS is a comprehensive, integrated and sequential development system that provides a continuous learning environment to develop and enhance the capabilities and leadership of CAF members.”<sup>6</sup> Only to be further specified into four pillars of one which is our particular interest: “Education – The provision of a base of knowledge and intellectual skills upon which information can be correctly interpreted and sound judgement exercised.”<sup>7</sup> Where the CAF commits to “provide Professional Development (PD) through their military careers” and “promot[e]ing a continuous learning

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<sup>6</sup>Department of National Defence, *DAOD 5031-8 – Canadian Forces Professional Development*, (Ottawa, Chief of Military Personnel), 14 October 2012.

<sup>7</sup>Department of National Defence, *DAOD 5031-8 – Canadian Forces Professional Development*, (Ottawa, Chief of Military Personnel), 14 October 2012.

environment...”<sup>8</sup> Thus, we now have clear intent from the CAF institution that the individual member will be enabled throughout his career with the appropriate PD opportunities to ensure their advancement which is very clearly laid out in the document.

As to be expected, nothing is left to chance. The CAF, i.e. including RCN input, meters military members’ careers and development through a plethora of intertwined policies designed to produce an optimal number of qualified and competent personnel. This ensures the functioning of the institution, including expected CAF outcomes, as laid out in DAODs 5070-0 – Military Employment Structure<sup>9</sup>, and 5070-1 – Military Employment Structure Framework<sup>10</sup>. The common initiating policy being DAOD 5002-0 – Military Personnel Requirements and Production.<sup>11</sup> The take away here, boils down to the fact that the CAF enables the RCN with policy which allows them to produce, i.e. Force Generate, the right sailor and/or officer for the right time to ensure continuity of the CAF institution for the maritime environment.

Ultimately, once the RCN has applied its policies, made good use of Training Development Officers when applying the CFITES to develop courses and determine the optimal delivery means, it should technically be in a position to achieve its aims. This is when the RCN personnel finally commence their long CAF voyage of becoming

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<sup>8</sup>Department of National Defence, *DAOD 5031-8 – Canadian Forces Professional Development*, (Ottawa, Chief of Military Personnel), 14 October 2012.

<sup>9</sup>Department of National Defence, *DAOD 5070-0 – Military Employment Structure*, (Ottawa: Chief of Military Personnel), 4 March 2014.

<sup>10</sup> Department of National Defence, *DAOD 5070-1 – Military Employment Structure Framework*, (Ottawa: Chief of Military Personnel), 18 February 2015.

<sup>11</sup>Department of National defence, *DAOD 5002-0 – Military Personnel Requirements and Production*, (Ottawa: Chief of Military Personnel), 30 September 2015.

professional soldiers when called upon via course loading message (throughout their entire careers).<sup>12</sup> In reality, this hierarchy of courses which correlates to an occupation career path that parallels with the Development Periods (DP) towards institutional roles, is a vast journey of information and knowledge consumption. Once an individual is evaluated to be at a particular junction beneficial to the future organization, Boards or accomplishment check lists allow them access the next level of information and knowledge. This process has become quite efficient with time to the point where we can easily state that the process of imparting knowledge to RCN people has become institutionally exclusionary.

The above only constitutes a wave top look at policy governing training delivery in the RCN. It is no surprise that the RCN desires to remain at the forefront of technological possibilities in optimising delivery of training to include efficient delivery of training and education to its personnel. It must achieve greatness in its IT&E and Collective Training (CT) before achieving excellence at sea. The STORM document sets the course in preparing the future of the RCN quite well. Which brings to question... What possible efficiency could be gained, what has not yet optimised despite the above mentioned very robust and all encompassing policies? The answer is nothing. If reviewed and challenged cyclically, as it is designed to be, the process is near perfect despite the existence of real wicked problems.

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<sup>12</sup>Canada. Department of National Defence. A-P9-050-000/PT001, *CFITES Manual of Individual Training and Education*. (Ottawa: DND Canada), 1997.



## PART 2

### Gender Based Analysis Plus

Gender Based Analysis Plus (GBA+) is now an intrinsic process which has integrated all aspects of the CAF which the RCN has not exempted itself. All RCN policy and documentation makes serious mention of either utilisation of its principles in achieving an outcome, or recognising the way ahead with GBA+ reviews for items pre-dating this additional lens in which to do business. The use and application of GBA+ is no longer a matter of acknowledging its existence as an enabling tool, but a practiced observance which is now applied to ensure the RCN is not omitting an important consideration or factor that would have otherwise gone unnoticed or ignored.

Unfortunately, despite all efforts in applying GBA+ principles to every aspect of RCN business, several realities easily rectifiable, have been missed in identifying certain situations related to access of professional information and their impacts. Termium Plus defines knowledge as: “theoretical or practical understanding; includes facts, principles, meanings, concepts and relationships.”<sup>13</sup> And it was “Sir Francis Bacon... in his work, *Medicationes Sacrae* (1597), the saying: “knowledge itself is power”, he most likely wanted to transmit the idea that having and sharing knowledge is the cornerstone of reputation and influence, and therefore power;...”<sup>14</sup> This represents exactly every

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<sup>13</sup>Government of Canada, “The Government of Canada’s terminology and linguistic data bank”, Termium Plus, Last consulted 4 may 2022. [https://www.btb.termiumplus.gc.ca/tpv2alpha/alpha-eng.html?lang=eng&i=1&srchtxt=knowledge&codom2nd\\_wet=1](https://www.btb.termiumplus.gc.ca/tpv2alpha/alpha-eng.html?lang=eng&i=1&srchtxt=knowledge&codom2nd_wet=1)

<sup>14</sup>Azamfierei, Leonard MD PhD, “Knowledge is Power”, *J Crit Care Med* (Targu Mures). 9 May 2016. <https://pubmed.ncbi.nlm.nih.gov/29967839/#:~:text=When%20Sir%20Francis%20Bacon%20published,all%20achievements%20emanate%20from%20this.>

hierarchical relationship in the RCN. The structured professional information distribution mechanism in place, i.e. courses commensurate to an expected DP level or career milestone, prevent subordinates from easily accessing the professional information which could level discussion disparity when engaging with superiors. This certified knowledge difference naturally produces exclusionary groups of qualified individuals within a work environment. With no obvious remedial means to appease a thirst for recognised education, a subordinate can very quickly lose his sense of belonging and engagement for his career.

In continuing with this GBA+ line of thought, the term equity vs equality is also challenged in the current RCN learning environment. Equity is defined as: “The principle of considering people’s unique experience and differing situations, and ensuring they have access to the resources and opportunities that are necessary for them to attain just outcomes.” Again, the note reads that equity aims to eliminate disparities and disproportions that are rooted in historical and contemporary injustices and oppression. Where as equality is the principle of treating everyone similarly ensuring access to same resources and opportunities. The note specifies: “Equality does not necessarily lead to fair outcomes since it does not consider people’s unique experiences and differing situations.”<sup>15</sup> Understanding of these two terms is quite simple to grasp when discussing the obvious likes of historical and contemporary injustices or oppression. But these

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<sup>15</sup>Government of Canada, “Guide on Equity, Diversity and Inclusion Terminology”, Last modified 31 March 2022. [https://www.noslangues-ourlanguages.gc.ca/en/publications/equite-diversite-inclusion-equity-diversity-inclusion-eng?utm\\_campaign=pspc-spac-guide-terminologique-22-23&utm\\_medium=eml&utm\\_source=dgcommunications&utm\\_content=infolettre-fr-220331](https://www.noslangues-ourlanguages.gc.ca/en/publications/equite-diversite-inclusion-equity-diversity-inclusion-eng?utm_campaign=pspc-spac-guide-terminologique-22-23&utm_medium=eml&utm_source=dgcommunications&utm_content=infolettre-fr-220331)

specific terms, Equity and Equality, potentially open the door to significant grey area consideration when applied against any other aspect of intersectionality which consists of the make-up of our diversity. Not only that a well made case based on race or age could leverage in favour of course selection, but it has real potential of devaluing the core importance of these very concepts for individuals. It is only a matter of time. Education is perceived as a reward in the RCN, especially when gaining access ahead of one's peers.

Along similar lines of intersectionality and the CAF Diversity Strategy, Objective 3.2: Improve Healthcare, Spirituality, and Family Support, "This objective aims to explore options and develop or modify policies where relevant. This could include building flexible definitions and work practices to accommodate a balance of cultural and family considerations.<sup>16</sup>" Looking at family composition and potential individual ability to commit time to the RCN, perhaps there are significant efficiencies to be found in the area of education portions of course. The CAF diversity Strategy truly offers up any means deemed reasonable for the RCN to enable ideas which will both favour its people diversity while remaining reasonable when it comes to conducting the seafaring business. All personnel have shifting priorities throughout their lives when they need to re-balance for family life... younger families, or caring for sick family members. RCN members may not always have as much time to dedicate to the institution, but with the right

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<sup>16</sup>Canada. Department of National Defence. *Canadian Armed Forces Diversity Strategy*. April 2016. P.11.

environment people always find a way to commit what time they find to improve in their careers.

Despite applying policy in a near perfect manner when seeking excellence at sea, the RCN finds itself at odds with the concept of inclusivity by creating its own exclusivity and disparity for its sailors through the training mechanisms in place. Fortunately, the official definition for inclusion offers the solution. “Inclusion [is] The practice of using proactive measures to create an environment where people feel welcomed, respected and valued, and to foster a sense of belonging and engagement.” For which the note provides the following guidance: “This practice involves changing the environment by removing barriers so that each person has equal access to opportunities and resources and can achieve their full potential.”<sup>17</sup>

### **Open education environment**

The RCN is an ultra-organized institution which has effectively structured itself into a corner. Through policy, directives, orders, etc, the institutional controls have prevented itself from seeing a poised opportunity. In a TED talk titled Institution VS Collaboration: Clay Shirky explains that institutional controls stifle individual engagement and becomes its [institution] own obstacle to improvement.<sup>18</sup> This is easily relatable for the RCN where individuals will generally wane curiosity and wait for

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<sup>17</sup>Government of Canada, “Guide on Equity, Diversity and Inclusion Terminology”, Last modified 31 March 2022. [https://www.noslangues-ourlanguages.gc.ca/en/publications/equite-diversite-inclusion-equity-diversity-inclusion-eng?utm\\_campaign=pspc-spac-guide-terminologique-22-23&utm\\_medium=email&utm\\_source=dgcommunications&utm\\_content=infolettre-fr-220331](https://www.noslangues-ourlanguages.gc.ca/en/publications/equite-diversite-inclusion-equity-diversity-inclusion-eng?utm_campaign=pspc-spac-guide-terminologique-22-23&utm_medium=email&utm_source=dgcommunications&utm_content=infolettre-fr-220331)

<sup>18</sup>“Institutions VS. collaboration”, YouTube video, 20:33. Posted by “TEDGlobal 2005”, June 2005. [https://www.ted.com/talks/clay\\_shirky\\_institutions\\_vs\\_collaboration/transcript?language=en](https://www.ted.com/talks/clay_shirky_institutions_vs_collaboration/transcript?language=en)

follow-on career course rather than seek to and acquire depth of knowledge on their own accord. The crux then becomes how to get individuals to engage out of their own interest into their professional information consumption, without having to compromise the work load or quality they are technically trained and currently employed to complete for the establishment. The solution lies in encouraging individual's engagement into their own education by making it easily accessible to be comprehended in a more cooperative way.

Currently the RCN institution has a hard control on information through its courses. This has for effect of limiting knowledge. And, in the case of our current model, this typically means accomplishing the educational part while on time allocated to cover the information factored into a course IAW QSPs. By relinquishing some controls over access to education, issuing guidance to develop education portions of courses to be both usable content for courses and independent consultation by decoupling the instruction support from the information in achieving knowledge (similar to the Primary Leadership Qualification construct), and adjusting the FNTS to enable access to the education material via smart phone and/or directly from an open internet with personal computers, fostering a permanent learning environment can commence now. This would be directly in line with DAOD 5031-8 para 4.7 b. guiding principles which states “promoting a continuous learning environment, with a view to imparting new knowledge and developing skills and attitudes as the basis for innovation and judgement.<sup>19</sup>”

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<sup>19</sup>Canada. Department of National Defence, *DAOD 5031-8 – Canadian Forces Professional Development*, Ottawa, Chief of Military Personnel, 14 October 2012.

To what target are we aiming for? For example, a Director level Anti-Submarine Warfare Officer fresh off course will join his ship as the subject matter expert to consolidate his new found knowledge and commence preparation for the next milestone of the Operations Room Officer (ORO) course. In the current construct, this Under Water Warfare Officer (UWWO) has very slim motivator to continue his learning and preparation from an education perspective towards the next course, despite that all other areas of warfare are still to be explored which he could benefit from now (Mine Warfare, Anti-Air, Anti-Surface, Helo Ops, Navigation, Information Management, etc...). Of course, the next career ORO course will provide the UWWO with all that necessary information when the time has come. In the proposed way, there is a greater possibility for breadth of knowledge where time education portion is not constrained in time to a course QSP day count requirement. Capitalising from this individual's professional curiosity through attempts to learn Anti-Air Warfare or Anti-Surface Warfare from his Above Water Warfare Officer (AWWO) counterpart once he has accessed the AWWO's educational material and receive a form of recognition (partial credit) for it, the learning is more in depth.

The outcome is not only would he be a better informed officer, but his personal educational journey as a UWWO towards the next career course (ORO) would start immediately with the added bonus of having immediate access to a peer qualified subject matter expert to explain the more difficult concepts and arrive better prepared to the ORO course. Similar scenarios can be thought up for many additional examples: questioning why we don't have enough guns for all ships? Introduce the individual to the institution:

Procurement, Life Cycle Management, Human Resource and Personnel Management, etc, Preparing for a Command board and a need to refresh gearbox knowledge? Consult the Marine Systems Engineers educational material on cross connect gearboxes... The examples are infinite, but they all answer professional curiosity immediately, with the approved answers sourced from the education packages of the subject matter experts, and foster both inquisitiveness and recognition for effort with a form of reward (if developed right). There is no real reason to refrain professional education of an individual at their commensurate DP level when curiosity is forging the path.

The RCN can always boast that all the information is already available. Inaptly, longer documents and publications do not generally lend themselves as appealing for consumption in said form and require unknown time commitments to master specific portions when not guided through them. Perhaps this why the CFITES process will practically never results with a statement like: “Read the following publications prior to access online testing.” In fact, key selected information deemed more critical is repackaged from the sources to be insist on the importance of certain aspects, simultaneously making education more pleasant to absorb in a course format. It remains nonetheless that education will typically have a form of written word to consult first which is the portion that should be shaped to be consumed through distributed learning techniques. This has been recognised to an extent in the STORM document where they

recognise the necessity for distributed learning environments<sup>20</sup> and the FNTS – Statement of requirements section 5.3.1 Distributed Learning<sup>21</sup>.

Today, practically everyone today has a cell phone, and many if not most personnel – or perhaps should be - are given a work phone. An over-simplified question is: Why not procure them all smart phone? One which they can use for both personal reasons, but that could allow them access to said information. A rapid online prices check for a single 5G smartphone is around \$1000 x estimated 5000 personnel in the RCN represents a \$5 million dollar purchase pre-tax to enable everyone in the RCN. This sum of money is still in the realm of minor procurements despite having to be processed through Shared Services Canada and is not unreasonable. It would also address grey zone issues such as use of own personal devices, use of personal data (other than wifi), to conduct official business, while facilitating CAF institutional problems like lower rank access to PaCE. Despite DAOD 5031-8 para 4.11 stating that “A CAF member must be allocated duty time for required IT&E without causing an increase in normal duty hours, or a decrease in off-duty time.”<sup>22</sup> The RCN works under special circumstances where when it deploys at sea, personnel are 24/7 on-board for possible durations of up to 8 months. I find it difficult to believe that during an individuals down time, they would not develop a personal habit to challenge themselves to a demand driven app – available on

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<sup>20</sup>Royal Canadian Navy, *Strategic Context Document – System of Training & Operational Readiness Modernization (STORM)*, Project Approval documentation V1.2, RDIMS #476634, (Draft), p. 6.

<sup>21</sup>Royal Canadian Navy, *Statement of Requirements – Future Naval training System (FNTS)*, National Defence, V1.3, RDIMS #1161708, 27 April 2021, p. 56.

<sup>22</sup>Canada. Department of National Defence, *DAOD 5031-8 – Canadian Forces Professional Development*, (Ottawa, Chif of Military Personnel), 14 October 2012.



their RCN provided smartphones – which provides professional information and tests knowledge in the form of a game (a great future idea for development). If an individual spends what would be considered considerable amounts of time, they could be rewarded or compensated with time off allowed by their chain of commands in the form of shorts as metrics are easily collected and measures with electronics.

For a more realistic approach timeline, the Defence Learning Network 3.0 is or will be available via standard internet as a cloud based storage capable of up to protected B information and available through personal devices such as smartphones<sup>23</sup> which could represents a very significant quantity of professional information. The RCN already makes good use of the current DLN, the leap to enable quick and easy access to the professional information should be simple. Policy, directives, rules and regulations are not designed to restrict people from accomplishing their work or improving themselves, they are an enabler which allows the institution to manage its personnel with a certain predictability. The RCN is not the only country to be modernising, perhaps it could share/coordinate the workload of creating leaning content with other NATO nations. Our main doctrine stems from NATO publications, perhaps the canadianisation could be the remaining challenge along with classified information.

The RCN is already investing for betterment tools to satisfy the training spectrum requirements through the STROM. The reality is nonetheless that with all IT&E and CT the RCN must subject its people to, there is always an education portion. This education

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<sup>23</sup>Canadian Defence Academy, “EPIC 101 – Enhanced Performance Innovation Center”, PowerPoint, (Kingston: CDA Military Personnel Generation), 24 February 2022, slide 45.

portion is typically sourced from policy, directives, doctrine, procedures... the list of professional formational sources an individual must consume during his career is practically endless. Yet, despite having most of the technology necessary to facilitate an open education work environment already implemented, the institution continues controlling access and certification rather than automating the process through technology and artificial intelligence.

### **Tailoring for the future user**

DAOD 5031-8 para 4.8 clearly states that PD is the responsibility of both one's Superiors [institution and Commanding Officer] and the individual CAF member itself.<sup>24</sup> The fact remains that the STORM project is creating a future for young RCN generations: Millennials and Generation Z and future... suspected to be called Generation A. RCN members from previous generations to Millennials can and should benefit from any advancement made, but the future should be designed to include but not cater to older habits. There remains very few people in the CAF whom are not sufficiently familiar with computers to be functional at work, the same observance through time will shift when discussion about education delivery. This is neither new information nor a surprise for the RCN which has been planning with the necessary assumptions.

In response to the changing CAF realities regarding education delivery, the Canadian Defence Academy is in the midst of producing a document title: "Canadian Defence Academy Culture Change Framework – The CAF Professional Development

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<sup>24</sup>Canada. Department of National Defence, *DAOD 5031-8 – Canadian Forces Professional Development*, Ottawa, Chief of Military Personnel, 14 October 2012.

systems Support to CAF Culture Change.” Without insinuating that the RCN needs to emulate the content of this soon to be released document, there is beneficial content to the document regarding Micro-Learning & Micro-Credentials.<sup>25</sup> These two concepts respectively define as follow: “Microlearning refers to any pedagogy that encourages learning in short segments, and it can be supported through many platforms, including social media.<sup>26</sup>”, and “A micro-credential is a certification of assessed competencies that is additional, alternate complementary to, or a component of a formal qualification.<sup>27</sup>” Both are strategies intended to be further applied in CDA instruction techniques in order to [empower and engage the Generation Z learners]<sup>28</sup> moving forward when creating and administering instructional content. Examples of micro-learning content can be found at the following Government of Canada link about GBA+ information: <https://women-gender-equality.canada.ca/en/gender-based-analysis-plus/microlearning-videos.html>.

Education is the one portion of individual training which never stops in an RCN member’s career. Thus ensuring that new material to be absorbed be provided through tailored designs which actually capitalise on attention span and focus while interest and engagement is at its prime becomes ever so more important. If the RCN aspires to further

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<sup>25</sup>Department of National Defence, “Canadian Defence Academy Culture Change Framework – The CAF Professional Development System Support to CAF Culture Change” draft, (Canadian Defence Academy), 24 February 2022, Annex B.

<sup>26</sup>Stephanie Trowbridge, Clair Waterbury and Lindsey Sudbury, “Learning in Bursts: Microlearning with Social Media.” *Educause Review*. No. 4, 10 April 2017. <https://er.educause.edu/articles/2017/4/learning-in-bursts-microlearning-with-social-media>.

<sup>27</sup>Algonquin College, “Micro-Credentials”, accessed 5 May 2022. <https://www.algonquincollege.com/microcredentials/>.

<sup>28</sup>Department of National Defence, “Canadian Defence Academy Culture Change Framework – The CAF Professional Development System Support to CAF Culture Change” draft, (Canadian Defence Academy), 24 February 2022, Annex A.

optimise IT&E and perhaps gain tremendous efficiencies when training its personnel, despite the cost, the CFTIES process should be ordered to whenever possible create content which will be created with both micro-learning and micro-credentials built in to be manageable through a distributed learning method. This will instantly generate motivation in individuals to maximise learning opportunities – especially if a learning session lasts about 5 minutes and gets tracked as completed.

In order to assist with content creation of a distributed learning method (DLN 3.0 for starters) which manages both micro-learning and micro-credentials, the RCN may need to conduct its own review through its NTS in order to affect the appropriate adjustments to the STORM project. Additionally, tracked micro-credentials completion could be part of pre-information packages for courses which have reviewed and tailored QSPs during cyclical reviews.

In truly fostering motivation to tackle self-driven education once enabled, recognition methods will need to be implemented to go along with the idea. The Canadian Forces Personnel Appraisal System accounted for significant PD which was understood to be mostly an act of initiative by an individual which was recognised and in a way rewarded when it completed ones Personal Evaluation Report. An investigation to the feasibility of micro-credentials becoming an indicator for the readiness of an individual to become a candidate for the next career course or DP level. Even consideration for Prior Learning Assessment and Recognition when combining micro-credentials to practical experience could become an efficiency to explore.

Regardless of now the RCN choses to look at the future of training, there needs to be a fundamental shift in the minds of those managing the progressions. By making the RCN – currently priority #1 – the actual priority #2 after the RCN member’s learning and career path – typically #2 in previous considerations. It might find itself with a better rounded professional whom is engaged at all levels much earlier in ones career, overall resulting in a better “product” which provides the #1 outcome of the RCN – excellence at sea. The NTS and STORM project have done an excellent job at including technological training delivery methods detailed down to the concept of vignettes and explores the full integration of virtual and augmented realities not only for the initial training of an individual, but also for the follow on development and continuity of on the job training.<sup>29</sup>

At the crossroads of a major CAF cultural evolution, the RCN finds itself in a position to adjust itself for the future culture and sailors. In achieving its ultimate goal of generating excellence at sea by providing the right people with the right qualifications at the right time, the RCN may need to rethink and challenge the previous belief that technology enabled learning is unaffordable for a small Navy like the RCN.<sup>30</sup> Especially when you are focusing the education portion only, where source material is not refreshed or updated significantly, and the cost of production in the public realm is diminishing due to availability of content producers.

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<sup>29</sup>Royal Canadian Navy, *Strategic Context Document – System of Training & Operational Readiness Modernization (STORM)*, Project Approval documentation V1.2, RDIMS #476634, (Draft), p. 16-22.

<sup>30</sup>Now an ageing calculation promoted that there are 25,000 training periods of 45 minutes each in the RCN operations curriculum alone. At a cost of \$50k for 15min of enabled learning, the full envelope was in the billions of dollars.

## **CONCLUSION**

In conclusion, the time is right for the RCN to lean forward foster a continuous open education work environment in its specialty domain of maritime affairs. Without having to scrap quality ongoing efforts while transitioning to this new educational enabling culture, the RCN can very easily adjust its NTS directives for the FNTS into leveraging and catering to our future sailors' traits while encouraging them to further develop through a microlearning and microcredential reward system. All elements are poised to be brought together in making this happen where the RCN can collaboratively achieve this educational goal with other CAF organizations. Finally, when looked through a GBA+ lens, an open education work environment resolves potential inclusivity situations which are at odds with current institutional policy and culture change promoted in the CAF, but exist in RCN social interactions and personnel relationships.

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