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Operationalizing the CAF's Training Culture for the Pan-Domain Battlespace

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CANADIAN FORCES COLLEGE – COLLÈGE DES FORCES CANADIENNES

JCSP 48 – PCEMI 48
2021 – 2022

Master of Defence Studies – Maîtrise en études de la défense

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ABSTRACT

As the Canadian Armed Forces (CAF) continue to evolve and strive to maintain relevancy in today's complex battlespace, organizational culture is pivotal to how we prepare for the uncertainties of future conflicts. To successfully integrate and synchronize effects across the domains, we must define what an operationalized culture in the pan-domain environment is and determine how the CAF orients its individual training to prepare for the uncertainties that the current and future battlespaces present. Deliberate shaping of the training culture in the CAF is essential to developing a learning organization and forming an adaptable force that is prepared for the rapidly changing operating environment.

Drawing on seminal research on organizational and experiential learning, this paper explores the intersections between training, education, and organizational culture. To supplement the review of existing literature with tangible examples, this study applies these concepts and theories to three case studies. First, reviewing the Basic Military Officer Qualification and Primary Leadership Qualification, followed by a contrasting example of the Israeli Defence Forces' officer development, provides context and identifies potential challenges in the CAF's current approaches to training.

The paper contends that early introduction to critical thinking, application of modern educational approaches to military training, and greater investment into preparing military instructors are necessary to set the conditions for an innovative and adaptive force.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

TRANSFORMING THE TRAINING CLIMATE: OPERATIONALIZING CAF'S TRAINING CULTURE FOR THE PAN-DOMAIN BATTLESPACE

CHAPTER 1: INTRODUCTION

The renewed great power competition, rapid evolution of technologies, and increasingly networked societies have profoundly changed the defence and security landscape. The rise in threats from adversaries' cyber capabilities, space weapons systems and the use of information to manipulate Canadians has added to the complexities of warfare. As the CAF seeks to navigate the emerging domains of warfare and integrate its effects, the approaches to training and the development of its members must evolve to prepare for the challenges and uncertainties presented by the evolving environment. The pace at which technology is advancing often results in CAF members training with equipment and systems that become obsolete even before they can employ them on operations and requires them to prepare for threats that have yet to exist. There are unique characteristics of the CAF's culture and approach to training that are advantageous to the preparations of sailors, soldiers, aviators, and special operations members for their occupations and must be maintained. For example, the importance placed on the safety of candidates, which resonates across the institution at all levels, should not be sacrificed. However, continuous innovation is required and will only be achieved by critically analyzing the training practices and determining the existing barriers to achieving an optimized pan-domain force.[1] Deliberate shaping of the training culture in the CAF for the pan-domain environment is essential to developing a learning

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[1] Department of National Defence, *Pan-Domain Force Employment Concept, Prevailing in an Uncertain World* (Ottawa: DND Canada, 2020), 7. Pan-domain is defined as the use of a broad set of military capabilities that are integrated across the land, sea, air, space, cyber, and information domains and applied holistically with other instruments of national power. This publication is a draft for discussion purposes.

organization and forming an adaptable force that is prepared for the complexities of the pan-domain environment. This paper will explore the intersections between training, education, and organizational culture with the view of identifying areas that can be optimized for the CAF to face the complexities of the future operating environment.

Methodology

Through a qualitative analysis of the CAF's training and application of academic literature on organizational culture and pedagogy, the paper will provide avenues for harnessing culture to train an adaptive and flexible force. The paper will review key CAF publications and seminal works on the military culture, training, and education to analyze current processes and structure through three case studies that address individual training. Academic literature was selected based primarily on the relevance to the topics of culture, training, education, and pan-domain operations. The relevance to the current and emerging operating environment was also based on the recency of the publications to ensure that obsolete and outdated information was not considered based on the changing technological capabilities and the geopolitical environment. While no exact constraints were used to select the literature, careful consideration was taken to ensure that the concepts and theories were still applicable and pertinent to pan-domain operations. The objectivity of sources and the publishing organizations were scrutinized, and diverging perspectives were reviewed, particularly those that pertained to the military concepts. A review of the Basic Military Officer Qualification and the Primary Leadership Qualification will provide an overview of the current training environment for officers and non-commissioned members (NCM). These examples of the CAF training methods will be contrasted with the Israeli Defence Forces' (IDF) officer development. The IDF's

diverging perspectives on the training and education of leaders will offer insights into how they develop an innovative culture amongst their junior leaders and cultivate improvisation. The key concepts and theories discussed in the literature review will be applied to these case studies to produce tangible recommendations and possible solutions for the CAF's operationalization of culture through training. Due to the nature and sensitivity of information related to military capabilities and operations, the sources for this research were limited to unclassified and published documentation and this paper does not contain any information that may compromise the security of the CAF or its allies. The subsequent chapter will review the CAF pan-domain concept, explore aspects of the Canadian military culture, and discuss the implications of military culture to leadership and learning. Chapter 3 will review literature on learning organizations, experiential learning, and cultural challenges to learning. Having reviewed the sources of the CAF's culture and the theories and concepts related to effective learning cultures, Chapter 4 will consist of case studies of two CAF courses contrasted with the approach to training Israeli officers.

CHAPTER 2: PAN-DOMAIN AND CULTURE

The amount of published research on the Canadian military culture is still very limited and pales in comparison to that of the United States. However, there have been influential works from defence researchers that looked critically at the CAF's culture surrounding major events, such as the Somalia affair in 1993, Afghanistan War, and most recently, the issues surrounding sexual misconduct. Examples of past Canadian literature on these major issues include Winslow's *The Canadian Airborne Regiment in Somalia: a socio-cultural inquiry*,[2] English's *Cultural dissonance: ethical considerations from Afghanistan*,[3] and Cotter's statistical research, *Sexual Misconduct in the Canadian Armed Forces Regular Force*.[4] Despite these past works on the most crucial and foundational aspect of the CAF ethos, there are still opportunities to advance the Canadian understanding of military organizational culture and the vital link to the conduct of operations. Canada's development of strategies, policies, and doctrine on emerging domains and integrating effects across the domains is in its infancy. The single publication from the CAF that explicitly and comprehensively addresses the pan-domain environment is the draft Pan-Domain Employment Concept (PFEC).[5]

Pan-Domain Employment Concept

The draft PFEC was developed in 2020 and has been a working copy to evoke further innovation and thought amongst CAF members towards the evolving defence and

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[2] Donna Winslow, "Misplaced Loyalties: The Role of Military Culture in the Breakdown of Discipline in Peace Operations," *Canadian Review of Sociology and Anthropology* 35, no. 3 (August 1998), 345-367.

[3] Allan D. English, "Cultural Dissonance: Ethical Considerations from Afghanistan," *Canadian Foreign Policy Journal* 22, no. 2 (2016): 163-172.

[4] Adam Cotter, *Sexual Misconduct in the Canadian Armed Forces Regular Force, 2018 Statistics Canada*, 2019.

[5] Department of National Defence, *Pan-Domain Force Employment Concept*. Draft for Discussion Purposes Only.

security environment. Because the ambitions of the PFEC involve and affect

organizations and agencies that are external to the CAF, it has yet to be approved and

officially published. As the first of Canada's initiatives toward a pan-domain force, it

impresses on the need for the CAF to adapt and develop a "broader set of military

capabilities, integrated across domains and applied holistically with other instruments of

national power."[6] The five imperatives identified in the document can be summarized as:

- the departure from thinking of war and peace as a binary concept;
- meeting the challenges posed by our adversaries across all domains;
- the coordination of the instruments of military and other components of national power;
- connecting CAF plans and preparations with key alliances and regional partners; and
- strengthening capabilities at home and abroad while accounting for the long-term nature of the security challenges.[7]

One of the 14 elements to address these imperatives is operationalizing culture to be more

"agile, innovative, and focused on the outcome."[8] Operationalizing culture is the

identification of relevant aspects of culture that influence military operations and the use

of this information to enable decision-making in the operational environment.[9] The

culture shift discussed in the document includes how the CAF trains its people by

thinking adaptively, being agile, and being innovative.[10] It also mentions innovative

approaches to education, the importance of continuous learning from past experiences,

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[6] Department of National Defence, *Pan-Domain Force Employment Concept,* 7. Draft for Discussion Purposes Only.

[7] *Ibid.*, 4.

[8] *Ibid.*, 5.

[9] Victor Bados et al., *Guidelines for Commanders and Staffs: Operationalization of Culture into Military Operations (Best Practices)*, 2010, 7.

[10] Department of National Defence, *Pan-Domain Force Employment Concept*, 29-30. Draft for Discussion Purposes Only.

and creativity in problem-solving approaches.[11] While still in draft, this conceptual

framework is the first to provide guidance on dealing with the evolving threats to Canada

within the context of the larger national defence strategy.

Although the pan-domain employment may be a unique concept to the CAF, the

synchronization of the domains, cyber, space, information, air, land, and maritime, is

being developed and practiced by many of Canada's allies. For example, the United

States Army developed the multi-domain operations (MDO) concept, which is defined in

The U.S. Army in Multi-Domain Operations 2028 as:

> [operations] conducted across multiple domains and contested spaces to
> overcome an adversary's (or enemy's) strengths by presenting them with
> several operational and/or tactical dilemmas through the combined
> application of calibrated force posture; employment of multi-domain
> formations; and convergence of capabilities across domains,
> environments, and functions in time and spaces to achieve operational and
> tactical objectives.[12]

All-domain operations are an evolution from the multi-domain concept. The joint

doctrine publication between the United States Air Force and Space Force states that all-

domain operations are comprised of "air, land, maritime, cyberspace, and space domains,

plus the [electromagnetic spectrum]."[13] Gaining an advantage over adversaries or

competitors demands the rapid integration of effects and the synchronized execution

across the different domains at the speed and scale appropriate to the mission.[14]

Similarly, NATO defines joint all-domain operations as "actions taken by the joint forces

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[11] *Ibid.*, 30.

[12] Department of Defense, *The U.S. Army in Multi-Domain Operations 2028*, AFDP/SDP 3-99
(Washington, D.C.: U.S. Army Training and Doctrine Command, December 6, 2018), GL-7.

[13] Department of Defense, *The Department of the Air Force Role in Joint All-Domain Operations*,
TRADOC Pamphlet AFDP 3-99 / SDP 3-99 (Washington, D.C.: Department of the Air Force, November
19, 2021), 4.

[14] *Ibid.*, 2-4.

of two or more NATO nations, comprised of all available domains, integrated with planning and synchronized in execution, at a pace sufficient to effectively accomplish the mission."[15] Much of the existing literature on all-domain and multi-domain describes the need for certain technologies, shifts in approaches to training, and how future operations must transform; however, there has been little focus on the desired culture of such an organization. As the element underpinning military activities and the behaviour of its members, developing effective training that prepares members for the complex battlespace starts with its culture. There is considerable debate whether the CAF's current military culture is appropriate for the future operating environment and if members are fit to adapt to the changing nature of warfare. This will first be explored by identifying some strengths and weaknesses of the CAF culture that may predispose its ability to transform.

CAF Culture

Optimizing the culture for the pan-domain environment requires an analysis of the specific aspects of the CAF that could influence the intended transformations. The PFEC provides general concepts on how the CAF must shape its culture through an evolution of training, along with other characteristics of its human resource management. However, the operationalization of culture can only be achieved by defining more granular and tangible means to fulfill the espoused organizational changes. To that end, this research will start with a review of the enduring historical and normative influences on the Canadian military culture and the changes that the CAF must undergo to achieve the

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[15] "All-Domain Operations in a Combined Environment," *Joint Air Power Competence Centre* (September 1, 2021): 2, https://www.japcc.org/portfolio/all-domain-operations-in-a-combined-environment/. The JAPCC is sponsored by 16 NATO countries with the aim of providing Air and Space Power expertise to NATO HQs and national policy-making bodies.

desired attributes stated in the PFEC. In discussing the importance of culture in the military's effectiveness, Allan English, a prominent researcher in human behaviour and war studies, explains that people's behaviours are driven by attitudes, which are a product of their values and beliefs.[16] Within organizations, the established group norms, the social pressures, and perceptions from behaviours impact individual decisions and actions.[17] Organizational culture can act as both a control mechanism and a catalyst for change. Some of the factors that influence the CAF's culture are products of the close relationship with allies, the rigid structure as a component of the public sector, and largely perpetuated through the systematic military approaches to training and leadership.

Americanization

There have been profound cultural influences from deployed coalition operations led by the United States in recent Canadian military history. The close relationships with other armed forces that contributed to the International Security Assistance Force (ISAF) throughout Canada's deployment to Afghanistan since 2001 required an alignment of doctrine and a convergence of experiences while fighting a common threat. Despite the eventual withdrawal of the CAF from Afghanistan in 2014, there have been other instances of the assimilation with a U.S. force structure, including the combined joint task force structure under Operation Inherent Resolve in Iraq and the multiple deployments in Eastern Europe with NATO. The most recognizable influences that have led to the 'Americanization' of the CAF are the results of the desire for interoperability with the

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[16] Allan D. English, *Understanding Military Culture: A Canadian Perspective* (Montreal: McGill-Queen's University Press, 2004), 9.
[17] *Ibid.*, 14.

equivalent services in the U.S. military.[18] There are notable similarities between the two militaries due to the normative influence through the years of fusion between the forces. From the military doctrine that facilitates effective combined operations to the everyday lexicon between the two militaries, many artifacts exemplify the similarities. The ability of CAF members and groups to be capable of integrating into a U.S.-led coalition has resulted in many successes in operations. However, it can also drive undesirable changes that may conflict with the espoused values, such as the inter-service competition of resources or the aversion to risk commonly present in large bureaucratic organizations. Many challenges that the CAF faces are caused by the differences between the espoused values that conflict with those that are practised.[19] Inconsistent messaging from leaders in defining the most important aspects are to the CAF creates confusion and results in the wasted effort by members to decipher the organizational values.[20] These adverse effects of Americanization include the non-adaptive characteristics, poor communication up the chain of command, and cautious leaders who protect self-interests and risk-reduction over organizational initiatives.[21]

The cultural resemblance of the CAF to that of the US, combined with the common challenges faced with the rapid evolution of warfare and the rising threats to global order, indicate the benefits of studying the U.S.' multi-domain and all-domain literature. Notwithstanding the many similarities, there are also unique aspects of the

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[18] *Ibid.*, 128.
[19] *Ibid.*, 110.
[20] Joe G. E. Sharpe and Allan D. English, *Principles for Change in the Post-Cold War Command and Control of the Canadian Forces* (Winnipeg, MB: Published for the Canadian Forces Leadership Institute and the Deputy Chief of the Defence Staff Group by the Canadian Forces Training Materiel Production Centre, 2002), 87.
[21] Allan D. English, *Understanding Military Culture: A Canadian Perspective*, 109-110.

Canadian military culture, such as the smaller size, which can advantage the CAF by providing greater agility and flexibility that allows quicker adaptation to change.[22] Elements that distinctly define the CAF's identity will be further discussed in the following paragraphs that discuss the bureaucracy that is prevalent across the CAF, and the influence of the leadership and training system.

Unification

A particularly unique aspect of the Canadian military identity is the unified structure of the CAF; all services of the military are under one command structure. In the 1960s, the individual services: Navy, Army, and Air Force, were forcibly merged with a common uniform, a single Chief of Defence Staff, and an amalgamated command structure.[23] Effectuated through the Canadian Forces Reorganization Act in 1968, civilian bureaucrats became more involved in military decision-making and it was intended to improve administrative efficiency.[24] Although many of the changes implemented by the unification, such as the common uniforms were reversed, the net impact was the creation of an environment that placed greater value on the administrative abilities of its leaders rather than military competencies.[25] Although the unification created a joint atmosphere in training and operations, it also cultivated values and attitudes that were occupational rather than vocational. As described in a report written in 1997 by Lieutenant-Colonel W.R. Wild, there were variances between the vocational ethos that the Canadian Army espoused and the occupational culture that resulted from

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[22] *Ibid.*, 128.
[23] *Ibid.*, 96.
[24] *Ibid.*, 96.
[25] *Ibid.*, 96.

the internal policies and practices.[26] The conflict between ethos and culture still resonates today and is amplified through changes in attitudes towards military service among younger generations as well as the specialized skills required for modern warfare. Many of the distinct services also remained extant through unification.[27] Alan Okros, who led the development of the CAF's foundational leadership and ethos publications at the Canadian Forces Leadership Institute, highlights that the profession of arms is divided into sub-sets of foci across occupations, environments, and domains within the government.[28] These divisions exhibit differing approaches to leadership, training, and overall service culture. Despite the unified command structure, there are significant remnants of cultural divides that affect the training of members and shape the development of the CAF's leaders. Based on the relatively smaller size and unified structure, there are opportunities to harness the agility and flexibility to develop innovative solutions to address future challenges through a military culture that is unique to that of the US.[29]

Military Leadership and Training Ethos

Okros attributes the nature of command and leadership in the CAF to a set of cultural enablers.[30] These cultural enablers include the influence of positional power, professional socialization process, shared moral code, well defined and understood roles, emphasis on obedience to authority, an integrated ethos, commonly understood

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[26] W. Wild, *Army Culture*, (Ottawa: National Defence Headquarters, 1997), 2.
[27] Allan D. English, *Understanding Military Culture: A Canadian Perspective*, 109.
[28] Alan Okros, *Leadership in the Canadian Military Context* (Canadian Forces Leadership Institute, 2010), 39.
[29] Allan D. English, *Understanding Military Culture: A Canadian Perspective*, 159.
[30] Alan Okros, *Leadership in the Canadian Military Context*, 10.

experiences, and anecdotes, including historical artifacts.[31] When evaluating the CAF's ability to develop leaders to address 'wicked' problems, Okros describes the challenge in the developmental periods throughout the progression of officers and NCMs is the need to "transition across three fundamentally different academic disciplines."[32] These disciplines include engineering and application of procedures at the tactical level for the entry-level members, development of plans based on natural sciences using procedures and structured analysis at the mid-level officers and senior NCM levels, and the analysis of complex issues through liberal arts and by asking the right questions for the senior and executive leaders.[33] Considering the cultural enablers within the CAF and the prominence of the leadership development that can exponentially influence these enablers across the organization, it is necessary to recognize the various roles that the leaders play in the organizational culture. English attributes the determination, shaping, and reinforcement of the culture to the officers, while NCMs are seen as the guardians of the established culture. [34] Central to the shaping and guarding of the CAF's organizational culture for the pan-domain force is the alignment with the espoused values within the leadership training across the CAF.

The most recent formalized expression of the CAF ethos is described in *Duty with Honour: The Profession of Arms in Canada*, published in 2009. [35] One of its goals is to "create and shape the desired military culture of the Canadian Forces" and describes

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[31] *Ibid.*, 10.
[32] *Ibid.*, 39.
[33] *Ibid.*, 39.
[34] Allan D English, *Understanding Military Culture: A Canadian Perspective*, 153.
[35] Department of National Defence, *A-PA-005-000/AP-001 Duty with Honour: The Profession of Arms in Canada*, 2009.

ethos as the "values, beliefs and expectations that reflect core Canadian values, the imperatives of military professionalism, and the requirements of operations."[36] It portrays the CAF's evolution since the Second World War and the Cold War to becoming "a smaller, multi-purpose force, determined to be inter-operable with allies" but suggests that the profession of arms in Canada needs to continue to adapt to be successful in service of Canadians.[37] It states that the profession will need to evolve through strategic direction provided by senior leaders to meet the challenges of tomorrow, but there is also an acknowledgement of the far-reaching effect of the actions of junior ranks NCMs, often referred to as the concept of the "strategic corporal."[38] These evolving roles and the shifts in the power dynamics must be reflected in the training methodologies across the CAF. Past research on the CAF culture and professional development has been justifiably focused mainly on the officer corps based on their roles as the organization's leaders but failed to address how NCMs are developed early in their careers. With the increasing emphasis on emerging leadership concepts that shift the power structure within the organizational hierarchy and provide greater autonomy to the workforce, leading organizational change has become a function that does not just involve senior leaders. The working draft of the revised CAF Ethos – *Trusted to Serve* also reinforces the top-down perspective of the CAF identity and culture.[39] It generically depicts the CAF identity as having a collaborative approach between the officer and NCM corps to

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[36] *Ibid.*, 25-26.
[37] *Ibid.*, 65.
[38] *Ibid.*, 66.
[39] Department of National Defence, *Canadian Armed Forces Ethos (CAF Ethos) – Trusted to Serve.* Permission to distribute via CFC Intranet and CFCLearn (Moodle) to international students and faculty granted by Col Pierre Viens, Director of Professional Development, Canadian Defence Academy. This permission is valid for AY 21/22. This is a draft document subject to change.

perform military functions while highlighting the importance of the command team and

the adherence to the chain of command.[40] The future evolution of the battlespace and the

different roles played by the CAF's NCMs will inevitably result in the greater influence

of junior members in driving the organizational culture. The CAF's development of

NCM Corps with the appropriate organizational culture is equally critical for success in

the pan-domain environment.

As part of the guiding principles for the evolution of the profession of arms, *Duty*

with Honour asserts that the CAF "must adopt the fundamental features of a learning

organization"[41]. The draft copy of *Trusted to Serve* also emphasizes the need for a

continuous learning environment within the professional development system and the use

of experiential learning.[42] This is consistent with the PFEC; however, these publications

do not further define the how the CAF will transform to become a learning organization,

nor do they address what changes to the CAF culture are required. There are also distinct

service aspects of the CAF ethos that manifest in different ways between the three

elements and reflect their distinct functions.[43] Further to the division between the

elements, the expressions of the CAF ethos differ between corps, regiments, occupations,

and geography. Due to the physical differences in the operating environment, history, and

culture, the Army, Navy, and Air Force have diverging approaches to military

operations.[44] How the ethos and the CAF culture writ large manifest in the different

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[40] *Ibid.*, 9.
[41] Department of National Defence, *Duty with Honour: The Profession of Arms in Canada*, 69.
[42] Department of National Defence, *Canadian Armed Forces Ethos Trusted to Serve*, 22-34.
[43] *Ibid.*, 25.
[44] Allan D. English, Howard Coombs, and Richard Howard Gimblett, *Networked Operations and Transformation: Context and Canadian Contributions* (Montreal: McGill-Queen's University Press, 2007), 28.

groups and the gaps that exist between the sub-cultures is an area that requires careful consideration. The following chapter will review the relevant academic literature on organizational learning, experiential learning, and instructional approaches and apply these concepts to the CAF's aim of transforming its training culture to prepare for the pan-domain environment.

Leadership and Culture

The discussion of culture within the CAF has historically occurred as a reaction to crises, resulting from failures to follow or enforce ethical conduct or the inability to resolve systemic issues that emerge as harmful behaviours amongst its members. According to Edgar Schein, a prominent author and researcher in the fields of organizational culture and leadership, the two types of problems that all groups and organizations deal with are "survival, growth, and adaptation in their environment" and "internal integration that permits daily functioning and the ability to adapt and learn".[45] Events like the Somalia affair and the release of the Deschamps report, sparked drastic changes within the organization and further investigations into the possible negative effects of the CAF's organizational culture. While the importance of addressing the harmful aspects of the CAF's culture must not be diminished or understated, culture must also be deliberately and proactively shaped within the organization to optimize its workforce to its full potential. Culture is described as "the accumulated shared learning of a given group, covering behavioral, emotional, and cognitive elements of the groups' members" or "a pattern of shared basic assumptions that was learned by a group".[46]

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[45] Edgar H. Schein, *Organizational Culture and Leadership*. 3rd ed. (San Francisco: Wiley, 2004), 18.
[46]*Ibid*., 3-17.

Lacking understanding of culture will result in becoming victims of its effects because of the powerful forces that it generates in society and organizations.[47] The role of leaders in the creation and changing of the culture is crucial. While managers and administrators act within a culture, leaders' behaviours can influence the complex group learning process within an organization; simply put, "leadership and culture are conceptually intertwined"[48] Although many individuals endeavour to change organizational culture, they face barriers that inhibit them from successfully realizing the benefits. Managers often try to change the behaviour of subordinates but encounter resistance to change or leaders try to make their organizations more effective under environmental pressure, but they behave in ineffective ways that threaten the existence of the organization.[49] For example, leaders tend to change organizational culture through policies but ultimately lead to unintended second and third-order consequences.[50] The ways that the organization rewards and punishes, such as through promotions, performance appraisals, discussions with their supervisors, and, in some cases, reprimands, will form their understanding of the organizational values.[51] In order to fully decipher and analyze culture, leaders need to be capable of seeing the world through cultural a lens and understand how new members are taught to perceive, think and feel as a result of the various cultural forces.[52] This analysis includes the way in which people join the organization develop throughout their progression, along with both intended and unintended influences. Deciphering operating

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[47] *Ibid.*, 3.
[48] *Ibid.*, 11.
[49] *Ibid.*, 9-10.
[50] Joe G. E. Sharpe and Allan D. English, *Principles for Change in the Post-Cold War Command and Control of the Canadian Forces*, 87.
[51] *Ibid.*, 259.
[52] Edgar H. Schein. *Organizational Culture and Leadership*, 9.

norms and assumptions for new entrants to a group is required to determine how the

implicit and unsystematic teaching occurs from the old members to the new.[53] Schein

identifies three levels that culture manifests:

- artifacts, which are visible organizational structures and processes;
- espoused beliefs and values, which are strategies, goals, philosophies; and
- underlying assumptions, which are unconscious, taken for granted beliefs, perceptions, thoughts, and feelings.[54]

Culture change cannot be addressed merely by addressing the artifacts, which is often the

case when the CAF reacts to risks and threats through policy changes. Changes to

organizational culture, particularly addressing the basic assumptions amongst a group of

people, can be difficult, time-consuming, and anxiety-provoking.[55] Beyond the artifacts,

influencing the espoused values and underlying assumptions requires a development

approach that is consistent with the desired behaviour; the message sent through leaders'

actions must be consistent with the desired culture across the organization.

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[53] *Ibid.*, 19.
[54] *Ibid.*, 26.
[55] *Ibid.*, 36.

CHAPTER 3: TOWARDS A LEARNING CULTURE

Militaries have unique approaches to developing employees from the initial stages of indoctrination into the organization, which can have significant impacts on the behaviours throughout people's careers. The CAF's espoused ethos and the prevailing culture that resonates across the organization are consequences of the learning environment, both as individuals and collectively as an organization. The norms that develop through the CAF's training and education systems, including the unintended effects that result from cultural factors, profoundly shape how members address complex new issues throughout their careers. Many of the influences on the CAF are unintended and caused by cultural propensities that stem from historical aspects, like Americanization or policies, such as unification. Therefore, the training approach must complement the desired ethos and the intended results outlined in the PFEC. This chapter will analyze the various learning concepts and theories that can prepare organizations for uncertainties and turbulent environments to understand the influences of culture in the military training system. The first section will explore the literature on organizational learning, its implications on the development of military members, and a specific application to the CAF's training model. The second section will discuss key concepts on experiential learning, along with the potential benefits to the consideration of learning styles in instructional approaches. Lastly, this chapter will highlight some challenges in redefining the CAF's training culture as well as barriers to preparing members to operate in the pan-domain operating environment.

Learning Organization

The development of talent that is optimized for the pan-domain environment hinges on the ability to evolve into a learning organization. Such organizations possess distinct cultures that nurture the continual expansion of peoples' desired capacity to create and encourage the group's collective learning.[56] Collective learning occurs in learning organizations because they are able to nurture a desire for new and expansive patterns of thinking and enable collective aspirations to be set free.[57] Through a study of various fields of research, Senge attributes organizational learning to five disciplines: systems thinking, personal mastery, mental models, building shared vision, and team learning.[58] Applying these five disciplines across the CAF's training system has the potential to increase the transfer of knowledge across the organization and improve the overall innovative thinking that is required to address emerging challenges. Systems thinking, which is referred to as the learning organization's cornerstone discipline, is the holistic analysis of the system and the relationships between the constituents rather than the individual components.[59] In the CAF's individual training system, where individual elements, occupations, and rank-levels are all trained within their specific training establishments and within their specific specialties, embracing systems thinking at the lower stages of members' development is invariably a challenging feat. Another area that will challenge the CAF's existing culture is team learning. Team learning requires the mastering of the practices of dialogue and discussion, which is the creative exploration of

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[56] Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Doubleday/Currency, 2006), 3.
[57] *Ibid.*, 3.
[58] *Ibid.*, 6.
[59] *Ibid.*, 459.

complex issues and the search for the information that best supports a decision.[60] This

often requires conflict that is constructive to organizational success; but this is hindered

by the CAF's hierarchal structure. In a learning organization, the benefits of dialogue are

dependent on everyone's willingness to surrender the privilege of rank and allowing for

those who are junior to express their views.[61] In a study conducted by a student attending

the Joint Command and Staff Programme in 2011, a survey of Canadian Army officers

attending the course concluded that less than half of the participants supported the notion

that "the Army advocate[s] collaboration during learning".[62] While the logical conclusion

might be to overcome these challenges through changes to structures, processes, or

technological solutions, shaping the culture requires modelling, teaching, coaching, and

mentoring, especially in times that are in desperate need of change.[63] Creating a learning

organization in the CAF hinges on those responsible for command and control to

demonstrate flexibility, creativity, initiative while rewarding these behaviours amongst

subordinates.[64] The CAF's structure of personnel development should support these

objectives while avoiding risk aversion and micro-management.

    In an article published in the U.S. *Army University Press*, Schatz et al. suggest

transforming training and education because the rapid pace of changes in the world

demands people with greater breadth of competencies, increased depth of nuanced skills,

and a higher velocity of gaining competencies; greater breadth, depth, and velocity are

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[60] *Ibid.*, 237.
[61] *Ibid.*, 245.
[62] D.C. Buchanan, "The Canadian Army and the Learning Organization: An Example of Contradictions?" (Master of Defence Studies Paper, Canadian Forces College, 2011), 49. https://www.cfc.forces.gc.ca/259/290/297/286/buchanan.pdf.
[63] Joe G. E. Sharpe and Allan D. English, *Principles for Change in the Post-Cold War Command and Control of the Canadian Forces*, 86-87.
[64] *Ibid.*, 90.

essential to maintaining relevance.[65] They propose five enabling conditions to redesign

military learning, aimed at producing individuals who are savvy and operationally adept

and promote organizational learning.[66] The first enabling condition is to "cultivate

ubiquitous learner-centric, technology-enabled instruction", which means that learning is

not bound by formal instruction and occurs continuously, timely, and as necessary based

on the individual's requirements.[67] A notable point made in the article is the blurring of

distinctions between training and education.[68] Training has traditionally been viewed as

having right and wrong answers, allowing for immediate tangible feedback, while

education is ambiguous and requires thinking and reflection.[69] According to the Canadian

Army's doctrine on *Training for Land Operations*, "[t]raining provides the technical and

procedural knowledge and skills required to perform assigned duties."[70] Training is

centred around the development of predictable responses to predictable situations, but can

include the development of mental agility and initiative required to react to unexpected

situations.[71] With the evolution of the operating environment, the latter is a necessity, not

a preference. Currently in the CAF, all members are trained from the initial stages of their

careers, but many are not formally educated due to their rank, responsibilities, and roles.

All commissioned officers receive professional military education or education from

civilian institutions at the beginning of their careers or prior to their entry into the CAF,

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[65] Sae Schatz et al., "The Changing Face of Military Learning," *Journal of Military Learning* (April 2017): 81.
[66] *Ibid.*, 89.
[67] *Ibid.*, 82-83.
[68] *Ibid.*, 82.
[69] Joan Johnson-Freese, "The Reform of Military Education: Twenty-Five Years Later," *Orbis* 56, no. 1 (2012): 138.
[70] Department of National Defence, B-GL-300-008/FP-001, *Training for Land Operations* (Ottawa: DND Canada, 2014), 3-4-1/3-4-2.
[71] *Ibid.*, 3-4-1/3-4-2.

while non-commissioned members will generally wait until they progress to senior ranks
and appointments. While confusing training with education has traditionally been viewed
as detrimental, allowing education to occur early in members' military development,
including in parallel with training, is beneficial to achieving the breadth, depth, and
velocity of learning. The second of Schatz et al.'s conditions is to "build upon the
foundations of data-driven learning", which is the use of performance measurements and
data-driven learning to enable real-time adaptations that improve the efficacy of
learning.[72] Similar to the double-loop learning concept that will be discussed later in this
chapter, it requires immediate reflection and assessment to improve the potential for deep
learning. The use of technology can greatly enhance organizations to collect and analyze
massive amounts of data that is not easily digested by an individual. The third condition
is to "foster a learning culture at the organizational level."[73] As learning organizations
that seek to continually adapt and transform to maintain relevance in the changing
environment, militaries must capture and timely apply lessons learned, enabled by
automated information systems that support the process.[74] Fourth is encouraging and
empowering social learning through collaborative networks that enable sharing of
knowledge amongst peers and sometimes up the military hierarchy.[75] This approach
augments the formal training and education process and allows for the ubiquitous
learning ecosystem. Lastly, the fifth condition is to "draw upon learning-science
deliberate practices and its body of knowledge."[76] Understanding and applying learning

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[72] Sae Schatz et al., "The Changing Face of Military Learning." Journal of Military Learning, 84.
[73] *Ibid.*, 86.
[74] *Ibid.*, 87.
[75] *Ibid.*, 87.
[76] *Ibid.*, 88.

sciences within the military context will enhance the delivery of instruction while maintaining pace with the continuous developments within the field of pedagogy. Considering the changes that the CAF and other militaries have experienced with the generational differences among those who are currently in the institution and those that are now enrolling, continuous updates to the instructional approaches based on modern learning sciences will enable better delivery of training to suit the changes in cultural dynamics between generations. A critical component in meeting these enabling conditions and modernizing military training is the interaction amongst its members to pass on knowledge through collective experiences.

Jerry W. Gilley and Ann Maycunich Gilley, through their research in organizational learning and development published in 2000, propose practical solutions to changing human resource practices to become a developmental organization.[77] They define the developmental organization as more evolved from both traditional and learning organizations based on the greater emphasis placed on the growth of employees and the efforts made towards their development, which results in a greater capacity for organizational renewal and competitive readiness.[78] In the developmental organization model, they stress the following ten principles: personal accountability, trustworthiness, employee advocacy, employee self-esteeming, performance partnership, organizational performance improvement, effective communications, organizational consistency, holistic thinking, and organization subordination.[79] Based on these principles Gilley and

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[77] Jerry W. Gilley & Ann M. Gilley, *Beyond The Learning Organization: Creating a Culture of Continuous Growth and Development through State-of-the-Art Human Resource Practices* (Cambridge, MA: Perseus Books, 2000).

[78] *Ibid.*, 58.

[79] *Ibid.*, 23.

Gilley emphasize the importance of characteristics of management, such as their promotion of employees' growth opportunities, fairness, meritocracy, rewards for competition without competitive behaviours, positive communications, transparency, ownership of organization's values, conflict management, and autonomy to accomplish the overall strategic goals.[80] While the blueprint established in *Beyond the Learning Organization* is crucial in developing a culture that optimizes organizational growth and development, these ideas are already aligned with the CAF's publicly expressed cultural values.[81] The greater challenge is the practice of these concepts in the training environments where the desired attributes are instilled into members of the CAF.

Senge also highlights the importance of understanding the mental models, which he defines as "deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action."[82] These mental models are surfaced and tested through specific skills that can be practiced with appropriate opportunities and a culture that "promotes inquiry and challenging our thinking."[83] He argues that the mere espousing of the cultural norms, such as openness, is insufficient in achieving the cultural change, particularly with overcoming "the basic disease of the hierarchy"[84]. Rather, he promotes the works of Chris Argyris, who is widely regarded as the father of organizational learning and credited for pioneering the single-loop and double-loop learning concepts.

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[80] *Ibid.*, 109.
[81] *Ibid.*
[82] Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Doubleday/Currency, 2006), 41.
[83] *Ibid.*, 358.
[84] *Ibid.*, 358-359.

According to Argyris' organizational learning theory, single-loop learning occurs when "errors are corrected without altering the underlying governing values."[85] The common analogy to describe single loop learning is when a thermostat is programmed to turn on or off based on the set temperature of the room.[86] Single loop learning occurs when people are self-fulfilling, apply defensive routines, minimize risk, and avoid losing control.[87] On the other hand, "[d]ouble-loop learning occurs when errors are corrected by changing the governing values and then the actions."[88] By applying the same analogy, the thermostat would apply double-loop learning if it was able to not only adjust its own temperature, but it would question the reasons for the set temperature, including the underlying objectives.[89] In order to achieve double-loop learning, people must be able to confront ideas, including assumptions and biases, while providing an environment that promotes self-reflection and vulnerability.[90] Defensive routines, which are actions that avoid embarrassment and threat while inhibiting the discovery of their causes, should be avoided to facilitate double-loop learning.[91] Effective application of double-loop learning requires scenarios that publicly test underlying assumptions and allow freedom to make mistakes with reflection that allows for growth. Amongst the Army officer candidates on JCSP in 2011, only 42.9% agreed that subordinates were "encouraged to question superiors and policies" and 19% supported the notion that the Army "question[s] its basic

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[85] Chris, Argyris, "Double-Loop Learning, Teaching, and Research," *Academy of Management Learning & Education* 1, no. 2 (2002): 206.
[86] *Ibid*., 206.
[87] *Ibid*., 212.
[88] *Ibid*., 206.
[89] *Ibid*., 206.
[90] *Ibid*., 217.
[91] *Ibid*., 213.

assumptions regularly".[92] Although the survey only represents a small slice of the greater CAF and eleven years have passed since these observations were made, major reforms of the training model and developments toward a learning organization have yet to be seen. The structured assessment models hinder the allowance for mistakes within the CAF's individual training system. The allowance for discomfort or embarrassment during courses is difficult to experience for candidates who are often in new team environments and striving to establish a positive reputation among peers, instructors, and sometimes subordinates. The process of reflection, questioning ideas within the training content, and directly making corrections to the governing actions that influence the overall outcome is not integrated into the training process. Although AARs are taught early in CAF members' development, they are not organic to the instructional approach and are only conducted at major intervals or following significant events within the training environment. These intervals or events may be included following the completion of assessed tasks or after the conduct of an entire training exercise. Even when double-loop learning is encouraged through the after-action review process, candidates can be dissuaded from publicly discussing critical observations that may impact their own or peers' evaluations or avoid making observations that may criticize instructors in fear of retribution. The section on hidden curriculum will further discuss the barriers that impede double-loop learning.

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[92] D.C. Buchanan, "The Canadian Army and the Learning Organization: An Example of Contradictions?" 71-72.

Individual improvisation and experimentation are central to the process of organizational learning.[93] The evaluations that require CAF members to fulfill specific standards, which are often represented as checklists, inhibit opportunities to improvise and experiment. While achieving these standards may enable members to memorize and practice a set of drills, this approach does not nurture a learning organization. Additionally, for organizational learning to be fully institutionalized, individual contributions need to be critically discussed, validated, modified, and integrated within the group or team.[94] Team learning takes place within organizations through sources that are either internal to the team, as previously discussed, or vicariously from the experiences of individuals or other teams.[95] Organizational learning includes the processing of information and application of the new knowledge by a single individual or by learners experiencing errors and correcting behaviours in conjunction with organizational tasks.[96] The latter case is also referred to as experiential learning and can have profound effects on the development of a learning organization.

Experiential Learning

Experiential learning is inherent within military training because members undergo physical and practical application of military effects at all levels of their development. However, maximizing the benefits of these experiences among learners requires the application of concepts of experiential learning that have been developed and

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[93] Tom Bijlsma, Irma Bogenrieder, and Peter van Baalen, "Learning military organizations and organizational change," in *Managing Military Organizations: Theory and Practice*, ed. Joseph Soeters, Paul C. van Fenema, and Robert Beeres, (New York: Taylor & Francis Group, 2010), 229.
[94] *Ibid.*, 229.
[95] *Ibid.*, 229.
[96] *Ibid.*, 238.

researched since the 1970s. As discussed through internal and external learning that

occurs within teams, the learning environment is layered. According to David and Alice

Kolb, the Chairman and President of the Experience Based Learning Systems

respectively, offer the following four classifications for learners' settings:

- microsystems – the immediate setting, such as the classroom;
- mesosystem – other concurrent personal settings, such as the dorm;
- exosystem – social structures that influence learners, both formal and informal;
- macrosystem – "overarching institutional patterns and values of the wider culture".[97]

These four levels of learning spaces are particularly influential in military training as

there is a sudden change in the societal structure, cultural values, and the physical settings

in which new recruits are immersed. The establishment of learning spaces is not only

different and often contradicts prior experiences, but there is greater control from a single

organizational entity over all levels. Because knowledge is derived not only from the

classroom and formal curriculum but also from all four learning spaces, a holistic

understanding and deliberate planning of the learning environment is critical. The

effectiveness of learning is maximized through proficiency in the four modes of the

learning cycle, experiencing, reflecting, thinking, and action.[98] The first learning mode,

experiencing, is the engagement in direct experiences and allows learners to sense and

feel at a specific moment in time.[99] This includes the interpersonal relationships,

including providing assistance to others or receiving help, that can affect the

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[97] Alice Y. Kolb, and David A. Kolb. "The Learning Way: Meta-Cognitive Aspects of Experiential Learning," *Simulation & Gaming* 40, no. 3 (June 2009): 320.
[98] *Ibid.*, 318-319.
[99] *Ibid.*, 319.

experience.[100] The second mode is reflecting, which involves sense making, gathering information and analyzing the information, takes time and space without the impulse or desires to take immediate action.[101] Thinking, the third mode in the cycle, consists of representing and manipulating ideas without the distraction of intense emotions or sensations.[102] Thinking provides meaning to the reflection and transforms it into action.[103] Lastly, action is the practical application of the experience and realistically tests the experience, reflection, and thinking process.[104] While all four modes are important to experiential learning, various learning styles will benefit differently from the four modes of learning. Kolb and Kolb outline nine basic learning styles that either emphasize one of the four individual learning modes or balance multiple learning modes for the benefit of their learning.[105] Considering individual learning styles in military training requires individualization that is uncharacteristic of the typical team environment and the uniformity that is inherent in the military culture. Two inadequacies of learner-centered, experiential learning are the demand for non-directive facilitation from the instructor and the requirement to match styles between the teacher and learner.[106] The weaknesses of the learner-centered approach may result in increases in both the time to train members and draw on human resources. Rather than simply seeking to match teaching and learning styles, Kolb et al. offer the practice of dynamic matching, which is a more realistic

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[100] *Ibid.*, 319.
[101] *Ibid.*, 319.
[102] *Ibid.*, 319.
[103] *Ibid.*, 309.
[104] *Ibid.*, 319.
[105] *Ibid.*, 315-316.
[106] Alice Y. Kolb, David A. Kolb, Angela Passarelli, and Garima Sharma, "On Becoming an Experiential Educator: The Educator Role Profile," *Simulation & Gaming* 45, no. 2 (2014): 207.

model, albeit complex.[107] As depicted in Figure 3.1, the nine styles within the

experiential learning cycle have matching educator roles in engaging and connecting to

the learners.[108] Table 3.1 lays out the ideal roles and techniques to each learning style.
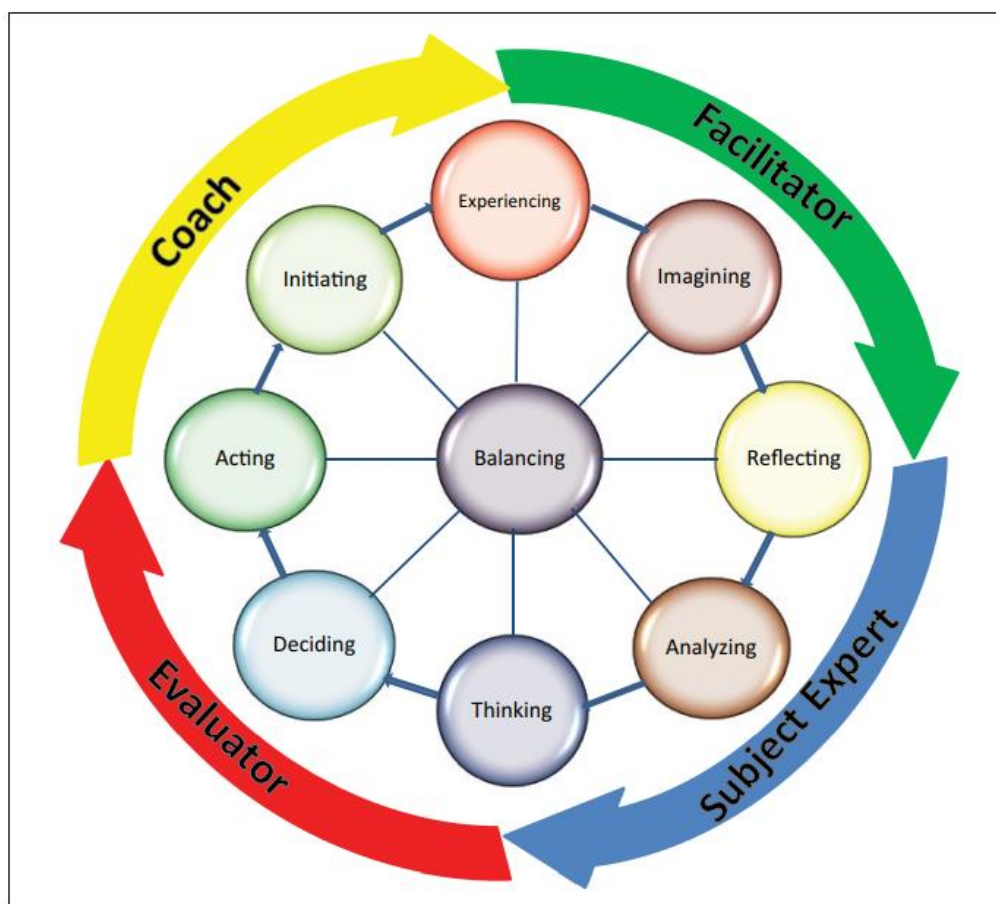
Figure 3.1 – Educator Roles and the Nine-Style Learning Cycle

Source: Kolb et al., "On Becoming an Experiential Educator: The Educator Role

Profile", 226.

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[107] *Ibid.*, 225.
[108] *Ibid.*, 226-227.

Table 3.1 - Educator Roles, Learning Styles, and Instructional Techniques

Teaching roles	Instructional techniques	Learning style
Facilitator	Journals, group discussion, brain storming, perspective taking, personal examples	Experiencing, imagining, reflecting
Expert	Lectures, readings, written assignments, model critiques	Reflecting, analyzing, thinking
Evaluator	Laboratories, case studies, simulations, graded homework	Thinking, deciding, acting
Coach	Field work, site visits, applied projects, practicum experiences	Acting, initiating, experiencing

Source: Kolb et al., "On Becoming an Experiential Educator: The Educator Role Profile",

226.

While the link between the style of the educator and the learner is important, their

styles are neither constant nor universal. Pairing the teaching techniques to the learning

styles is most relevant at the initial stages of the learning cycle, but acquiring complex

knowledge and skills requires active movement around the cycle based on the situation

and preferences of both the learner and teacher.[109] As a result, flexibility of both the

educator and learner can foster experiential learning. The flexibility of the educator role

and having a "facilitator mind-set" can enable them to teach learners with incongruent

styles.[110] For learners, developing learning-style flexibility makes them capable of

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[109] *Ibid.*, 227.
[110] *Ibid.*, 227.

tailoring their learning strategies based on the subject or discipline that they are learning.[111]

As part of a doctoral dissertation, Simons studied the New Zealand Defence Force's professional development system and its related learning sources beyond the formal curriculum.[112] He identified that there is a common issue in professional military education in growing 'strategic artists' because students achieve surface learning and quickly reach high standards, followed by knowledge-fade, rather than a deep understanding or long-term recall.[113] Simons states that this phenomenon that occurs amongst war college students is prevalent in peacetime.[114] He identified a significant influence that the institution's culture has on students' learning and further investigates the influential factors through his mixed method research that includes interviews, expert opinions, document analysis, and case studies.[115] Among the many observations made on informal learning that will be discussed in the following chapter, Simons concludes that students should be empowered to feel ownership of their learning through reflections sessions that also enable the sharing of knowledge.[116]Allowing more time in training and education or reflection and to directly apply it to the organization's development is in keeping with Argyris' organizational learning theory and Kolb's experiential learning.

Another key element that is crucial in experiential learning is the impact of the learning environment on the development of innovation and creativity. Thriving at

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[111] *Ibid.*, 228-229.
[112] M.V. Simons, "Holistic Professional Military Development: Growing Strategic Artists" (Doctoral Dissertation, Murray University, New Zealand, 2010), 1.
[113] *Ibid.*, 18.
[114] *Ibid.*, 18.
[115] *Ibid.*, 81-90.
[116] *Ibid.*, 222-223.

creativity, otherwise referred to as divergent thinking, is being able to see things in a new way and is considered a strength amongst upper-level managers.[117] The three components of creativity are expertise, imaginative thinking, and intrinsic motivation.[118] Insufficient technical expertise can hinder one's ability to generate novel ideas; however, over-reliance on past solutions is a possible flaw for those who rely too heavily on their expertise.[119] One of the barriers that stifle imaginative thinking is the evaluation of people's ideas by others and can result in self-censoring or rejection of others' creative ideas. [120] Less autonomy, sense of control, and freedom can also reduce intrinsic motivation and inhibit creativity.[121] Simon's research identified that stress frequently undermined student innovation and recommended balancing the need for innovative thinking with the development of skills that are required to cope with externally applied pressures.[122] Because of the rapid pace of technological advancement and the changing nature of the CAF's operating environment, the capabilities that members use in training will not be the same systems that are used in the future. Therefore, creativity and innovation are crucial to preparing CAF members for the pan-domain environment. The CAF must harness experiential learning and encourage divergent thinking.

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[117] Richard Hughes, Robert C. Ginnett, and Gordon J. Curphy, *Leadership: Enhancing the Lessons of Experience* 2nd ed (NY: Irwin/McGraw-Hill, 1996), 158-159.

[118] Robert J. Sternberg, *Beyond IQ : A Triarchic Theory of Human Intelligence* (New York: Cambridge University Press, 1985) quoted in Richard Hughes, Robert C. Ginnett, and Gordon J. Curphy. *Leadership: Enhancing the Lessons of Experience*. 2nd ed. (NY: Irwin/McGraw-Hill, 1996), 161.

[119] Robert J. Sternberg. *Beyond IQ : A Triarchic Theory of Human Intelligence* (New York: Cambridge University Press, 1985) quoted in Richard Hughes, Robert C. Ginnett, and Gordon J. Curphy. *Leadership: Enhancing the Lessons of Experience*. 2nd ed. (NY: Irwin/McGraw-Hill, 1996), 161.

[120] *Ibid.*, 161.

[121] *Ibid.*, 162.

[122] M.V. Simons, "Holistic Professional Military Development: Growing Strategic Artists," 224-225.

Barriers to a Learning Culture

Though employing concepts of the learning organization and applying

experiential learning effectively will benefit an organization's culture, there are also

unintended consequences to organizational culture from the design of the learning

environment. Despite the active effort made towards enabling dialogue, empowering

them, and managing the stress applied to learners, systemic factors and influences can

result in undesirable outcomes. Literature pertaining to hidden learning or curriculum

shadows, divisionalization, and risk management will be reviewed. These concepts and

theories will be applied to the CAF with the aim of determining viable ways to

operationalize its culture for the pan-domain environment through training.

Hidden Curriculum

Although experiential learning is understood as a concept, practicing it is an

entirely different challenge. Employees may seek to hide errors that would otherwise

benefit double-loop learning. Technical errors are masked through the games and norms

that exist within the organization.[123] This is one example of the hidden curriculum.

Factors outside of the formalized curriculum and the desired approach to training can

influence the development of students. Okros describes hidden learning as "unintended

learning that occurs as a result of what the curriculum does or does not cover and how it

is taught and assessed."[124] Similarly, the hidden curriculum is the praise and power

within the classroom that establishes certain characteristics, outside of the official

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[123] Chris Argyris, "Double Loop Learning in Organizations," *Harvard Business Review*, September 1977, https://hbr.org/1977/09/double-loop-learning-in-organizations.
[124] Alan Okros, *Leadership in the Canadian Military Context*, 40.

curriculum.[125] This can include the success of certain students who master the ability to take tests despite not having comprehension of the subject, or the students who discover ways to respond sufficiently to teachers with minimal effort and discomfort.[126] The variances among students in their ability to navigate the hidden curriculum can drastically influence their success in the classroom. Some of the more severe instances such as intellectual shortcomings are attributed to poor motivation, which often results in students' failure to meet institutional expectations.[127] Okros offers examples in Canadian professional military education where students on the JCSP had a tendency to view the course as a tick in the box while the students on the National Security Programme avoided embarrassing others, which ostensibly influenced students' behaviours.[128] Comparatively, the mere fact that certain subjects were not covered in the curriculum as part of the New Zealand Command and Staff Course signalled to students that those topics were not important.[129] Simon identified the following four dominant foci of learning that were observed and measured among the students of the New Zealand Defence College: learning how to learn, learning the game, learning to be an expert, and learning the profession.[130] These social and behavioral endeavours undertaken by students to adapt to their environment indicates that placing a greater emphasis on these non-formal aspects of learning is critical to the holistic development of the learners. Okros assessed that the Canadian Forces College was not able to recognize the learning

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[125] Philip W. Jackson, *Life in Classrooms* (New York: Holt, Rinehart & Winston, 1968), 33.
[126] *Ibid.*, 35-36.
[127] *Ibid.*, 35-36.
[128] Alan Okros, *Leadership in the Canadian Military Context*, 40.
[129] *Ibid.*, 60.
[130] M.V. Simons, "Holistic Professional Military Development: Growing Strategic Artists," 185-190.

that occurs outside of the formal curriculum, as was identified in Simon's study of the New Zealand's programme.[131] He concludes that the development of the CAF's senior leaders should not rely solely on the structured learning, but greater emphasis should be placed on the shaping of accidental experience that occurs in the learning environment due to the hidden curricula.

The CAF's training environment is filled with situations that require its members to "play the game." The games played by the trainees and encouraged by the instructors or leaders are not necessarily articulated as performance measurements or training objectives but still need to be followed to be successful. Due to the nature of the military team culture and the external pressures applied on candidates through evaluations and continuous observation by instructors, members develop in ways that fit within the norms of the institution. These norms are often not aligned with the desired attributes of learning organizations or to facilitate experiential learning. In a study of Norwegian cyber officers, newly recruited students expressed concerns over balancing the duality between societal norms and the unique societal, ethical, and cultural norms internal to the military. [132] While socialization into a new organizational culture is expected, the conflict between their socialization prior to joining the military and the desired reformation that does not encourage individuality affects their development, particularly in technical occupations. Adapting and adjusting to the collective loyalty and organizational efficiency often competed with the technical aspects of the profession.[133] These challenges were

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[131] Alan Okros, *Leadership in the Canadian Military Context*, 40.
[132] Hanne Eggen Røislien, "When the Generation Gap Collides with Military Structure: The Case of Norwegian Cyber Officers," *Journal of Military and Strategic Studies* 16, no. 3 (2015): 39.
[133] *Ibid.*, 39.

compounded by the generational differences between the leaders within the hierarchal system and the students. Similarly, fostering experiential learning and developing into a learning organization requires a holistic view of the learning environment beyond the formal curricula. The hidden curricula must reflect the espoused values and ethos of the CAF, not impede in its success.

Divisionalization

Large organizations are separated by divisions and will inevitably develop distinct sub-cultures. Despite having the same overarching objectives and common senior leaders, divisions will develop rivalries, different processes, or competing goals. In the military, the divisions are also represented by different geographies, attire, incompatible technologies, language, jargon, and even physical infrastructures in which people socialize. These dynamics exist in societies or organizations with strong divisions between sub-cultures that are often separated by their roles, functions, geographies, or structures. However, "[s]trong divisional sub-cultures will not be a problem to the parent organization unless the parent wants to implement certain common practices and management processes"[134]. Schein recalls working with senior managers at a Swedish conglomerate to develop a common culture between divisions that had differences in their assumptions of how managers ought to be developed based on their background, experience, or competencies.[135] Attempts at cross-departmental assignment of managers from the parent organization was outright abandoned due to strong divisional cultures that only sought to promote within based on knowledge-base of the business, lack of

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[134] Edgar H. Schein, *Organizational Culture and Leadership*, 285.
[135] *Ibid.*, 285.

evaluation based on general management potential, and perceived cost of losing a manager to an external program.[136] Other examples of challenges from divisionalization were demonstrated when introducing information technology. Based on interviews with CEOs across different industries identified that the implementation of a common information technology resulted in resistance, subversion, and sometimes-even refusal to adopt the common system.[137] While the first example is more difficult to demonstrate within the CAF, there is certainly a strong tendency to only assign leaders from specific subcultures to key appointments that develop a wide range of training establishments. The latter example of distrust of new technology developed and introduced by other divisions of the organization is a common challenge that signals a risk to optimizing for operations that require cross-domain coordination. In the military, trust is often placed with those with common experiences and based on their reputations.[138] Those that have developed trust and cooperation previously will be more apt to trust each other in the future.[139] Conversely, contrasting cultures may drive differences in their reactions within the same situation due to their level of comfort with uncertainty and ambiguity.[140] Donna Winslow, a Canadian anthropologist with multiple publications on the Canadian military culture, states that the regimental allegiance in a Canadian soldier's identity is cultivated through the development following basic training.[141] There is an emphasis on a sense of

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[136] *Ibid.*, 286.
[137] *Ibid.*, 286.
[138] Marion Bogers, Andrea van Dijk, and Jacqueline Heeren-Bogers, "Trust and control in the military Dual or dueling forces?," in Managing Military Organizations: Theory and Practice, ed. Joseph Soeters, Paul C. van Fenema, and Robert Beeres, (New York: Taylor & Francis Group, 2010), 165.
[139] *Ibid.*, 165.
[140] *Ibid.*, 172.
[141] Donna Winslow, "Misplaced Loyalties: The Role of Military Culture in the Breakdown of Discipline in Peace Operations," *Canadian Review of Sociology and Anthropology* 35, no. 3 (August 1998): 354.

belonging and is rewarded for group performance.[142] While strong cohesion and affiliative ties are developed through socialization to for the efficacy of a combat force, it can impede on the effectiveness of the overall organization.[143] The strong group identification within the Canadian Army has historically surfaced in many incidents that have tarnished the reputation of the CAF. Winslow notes the root of the breakdown in the discipline during peace support operations were the results of the formal and informal socialization that encourages loyalties to in-groups that is not balanced with the respect for legitimate authority and the rule of law.[144] Beyond the failures during peace support operations as a result of the regimental culture in the Canadian Army, the strong sub-cultures that drive misplaced loyalties and unacceptable behaviours indicate inability to adapt to common practices of the greater organization.

The CAF's individual training and education (IT&E) system segregates the training of the various occupations based on their element, corps, branch, and their specific specialty. After completing basic military qualifications, members undergo training to develop within their specific field that is generally both led and instructed by those within their branch and occupation. The cultural divisions between the elemental indoctrination training and the occupational specialty courses are entrenched in the conduct of training. While the division in training helps to develop technical competencies and cohesion, the development of loyalties to the sub-cultures throughout their formative development can negatively affect the integration with the overall parent organization. Aside from the environmental and occupational training, there are

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[142] *Ibid.*, 346.
[143] *Ibid.*, 364.
[144] *Ibid.*, 363-364.

leadership courses throughout NCM and officer careers that allow for the fusion of all diverse backgrounds. However, aside from their Basic Military Qualification (BMQ), these opportunities generally commence at the rank of MCpl during their Primary Leadership Qualification (PLQ) and segregation by geography commonly occurs to achieve efficiencies. At the rank of MCpl, they are also deeply socialized into their sub-cultures. For officers, after completing their Basic Military Officer Qualification, the first developmental training with other occupations is at the rank of Captain. At this level, their training will remain within their elements and will start to integrate into a joint environment at the major rank. By the time senior officers are integrated into joint individual training, they are deeply socialized into their sub-cultures. Historically, sub-cultures that were not consistent with the CAF ethos were extremely damaging to the overall efforts and the organization's reputation. In the pan-domain operating environment, where interoperability is required across the domains at all levels of the organization, the CAF must deliberately design a training culture that limits the existence and perpetuation of superfluous sub-cultures. Operational relevance requires members at all levels to be innovative, adaptive, and cognitively flexible. With these demands on CAF members, the training structure must be transformed to benefit from the merging of cultures and maintain alignment with the greater vision for the CAF.

Risk Management

A side effect of the hidden curriculum in individual training in the CAF is that there is little room for members to take risks. Rather than fostering a climate that encourages subordinates to exercise initiative and judgement, while taking prudent risks,

the CAF's policies result in risk aversion and reluctance to assume risks.[145] Failure in the

individual training realm can often result in a reprimand or inability to achieve the

minimum institutional standards, which is tied to the employability of the member within

a given occupation and rank. Failure in the collective training environment can result in

not meeting the requirements of operational readiness of the organization and certainly

diminishes the reputation of the organization and its leaders. There is a common lack of

willingness of both students to take risks and leaders to challenge their organization with

new and complex scenarios. Additionally, leaders who act insularly, protect their own

interests and are overly cautious produce non-adaptive cultures.[146] Schyberg III contends

that "[f]ailure in training is vital in unconventional and conventional warfare

environments"[147] To enable deeper learning, leaders must shape the environment to

encourage mistakes and remove the barriers that hinder opportunities for growth.[148]

These opportunities for failure must also be accompanied by the reflection that enables

Argyris' double-loop learning. A climate that allows for failure has the potential to

develop more agile and adaptable leaders while building a force that is more resilient.[149]

When describing the rapidly changing environment for the U.S. Army, Carpenter

asserts that leaders have significantly more demanding jobs that require innovation.[150] To

prepare for the changing nature of military operations, leaders need to be taught agility

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[145] Joe G. E. Sharpe and Allan D. English, *Principles for Change in the Post-Cold War Command and Control of the Canadian Forces*, 82-83.

[146] *Ibid*., 88.

[147] Harold R. Schyberg III, "In Praise of Failure," *Small War Journal*, (2017), https://smallwarsjournal.com/jrnl/art/in-praise-of-failure.

[148] *Ibid*.

[149] *Ibid*.

[150] Martin T. Carpenter, "Army Organizational Culture of Innovation A Strategic" (USAWC Strategy Research Project, U.S. Army War College, 2006), 1.

through "an institutional culture of innovation".[151] This involves the creation of new business practices, new organizations, and behaviours, including through training.[152] Carpenter also addresses the evaluation system in the U.S. Army that is not very tolerant of failure, which favours short-term success and potential for continued service over development of mentally agile leaders.[153] Innovation and the culture of developing agile and innovative people are also hindered by the hierarchically ethos that encourages centralization rather than initiative.[154] Carpenter advocates for an organizational climate that permits making honest mistakes, supported by AARs and experiential learning, while rewarding prudent risk-taking, particularly among junior officers.[155] Self-development amongst junior leaders and mentorship from organizational leaders are a critical component to the changes in climate and teaching the organizational values that allow innovation to thrive.[156]

Barno and Bensahel describe large bureaucracies, such as militaries, as resistant to change primarily because they attempt to reduce uncertainty by simplifying complex environments.[157] While changes in the market constantly pressure private sector companies, public sector organizations do not face the same competitive forces, and they are focused on rationally achieving their objectives, with minimal risk.[158] Specifically for militaries, adaptation is a particularly difficult endeavour due to the differences between

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[151] *Ibid.*, 1-8.
[152] *Ibid.*, 30.
[153] *Ibid.*, 38.
[154] *Ibid.*, 38.
[155] *Ibid.*, 64.
[156] *Ibid.*, 13.
[157] David Barno and Nora Bensahel, *Adaptation Under Fire: How Militaries Change in Wartime* (New York: Oxford University Press, 2020), 10.
[158] *Ibid.*, 12.

training and wartime environments, and the cost of failure can be catastrophic. The stakes

for military failures can include injury or death of personnel, which drives leaders to rely

on familiar approaches rather than new methods that present uncertainty. Because the

future of the battlefield is uncertain, militaries must adapt to changing environments by

striking the right balance of changing just enough but not too much.[159] Doctrine that does

not stifle imagination but promotes the unity of effort and individual judgement, and

adaptability at the institutional level that enables technological advancements are two

critical components to adaptation.[160] However, the most important component is the

development of adaptive leaders during peacetime, who can manage the unpredictability

of war; strong leadership can overcome the problems faced in both doctrine and

technology.[161] Although Barno and Bensahel do not specifically address culture within

their framework for adaptation, the three components of doctrine, technology, and

leadership are all effects of military culture. It is necessary for leaders to acknowledge

that future wars, which include the cyber and space domains, are characterized by

unpredictability and rapid changes.[162] The U.S. military lacks both realistic operational

experience under degraded or disrupted conditions due to cyber and space threats and

does little to train under constrained environments.[163] The authors of *Adaptation under

Fire: How Militaries Change in Wartime* stress the importance of integrating free play

and training under degraded environments during training exercises.[164] They also advise

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[159] *Ibid.*, 18.
[160] *Ibid.*, 26-27.
[161] *Ibid.*, 28.
[162] *Ibid.*, 240.
[163] *Ibid.*, 243.
[164] *Ibid.*, 271.

on including adaptation as part of planning, training, and education by recognizing it as a principle of war, evaluating leaders on their adaptability, and by revamping professional military education with diverse experiences with exposure to civilian education.[165] The failure of militaries to adapt to the changes in warfare requires deliberate mechanisms to enable its members to develop adaptiveness as a core skill and trait through training. Barno and Bensahel's tangible recommendations to develop its leaders and provide experience through training focused on increased preparedness for the challenges in war offer potential avenues for the CAF to improve its adaptability. The culture surrounding training must transform to foster adaptive behaviour and reward appropriate risks.

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[165] *Ibid.*, 283.

CHAPTER 4: CAF TRAINING DESIGN

As recruits join the CAF, the first exposure and emersion into the organizational culture are through the individual training system. Courses are also offered throughout various points in members' career progression that can reshape or reinforce the assumptions developed throughout their initial exposures. In a study conducted as part of the JCSP in 2014, Gamblin wrote, "[c]hanging organizational culture relies on people seeing value in the change and then being guided towards a new reality."[166] Implementing the desired cultural changes from the bottom-up is achieved through education and training that promotes awareness, participation, and sharing".[167] Gamblin warns about not having the appropriate supporting structures to enable the overall defence enterprise and to achieve the learning goals within the Department of National Defence (DND) and Canadian Forces Organizational Learning Strategy.[168] The DND/CF Organizational Learning Strategy lays out the following six goals:

      a.   Organizational Learning Strategy;

      b.   Manage Content Effectively;

      c.   Learn from Our Own Experience;

      d.   Learn from Other Organizations;

      e.   Leverage Our Knowledge; and

      f.   Foster a Culture of Continuous Learning and Innovation.[169]

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[166] W.E. Gamblin, "Knowledge and the Defence Enterprise: Developing a Culture of 'Need to Share' for Organizational Success," (Master of Defence Studies Paper, Canadian Forces College, 2014), ii. https://www.cfc.forces.gc.ca/259/290/301/286/gamblin.pdf.

[167] *Ibid.*, ii-96.

[168] W.E. Gamblin, "Knowledge and the Defence Enterprise: Developing a Culture of 'Need to Share' for Organizational Success," 59. Department of National Defence, *DND/CF Organizational Learning Strategy* (Ottawa: DND Canada, 2010).

[169] Department of National Defence, *DND/CF Organizational Learning Strategy* (Ottawa: DND Canada, 2010), 6. Quoted directly from source.

These goals not only reflect the organizational learning and experiential learning concepts discussed in the previous chapter but are also relevant to the current challenges faced by the CAF and DND. Revitalizing this DND strategy and applying it to the CAF's training approach is a fundamental component of the aforementioned support structure for the defence enterprise. Although this paper is specifically aimed at addressing training within the CAF, it is important to recognize that a culture of innovation and the importance of organizational learning are recognized as requirements of the entire Defence Team.[170] Successful implementation of the organizational learning strategy is dependant on its application through training of the newest recruits to the highest levels of leadership. The first two sections in this chapter will discuss two CAF courses that are pivotal in developing leaders and instructors. These examples will be contrasted and compared with the training of IDF officers, providing potential opportunities to challenge the CAF's status quo.

BMOQ and Officer Training: Socialization of Institutional Leaders

The CAF socializes its leaders into the various aspects of the organizational culture. An analysis of Basic Military Officer Qualification (BMOQ) provides an understanding of CAF leadership and socialization during the initial stage of leadership training. The BMOQ is a common course that all officers will undergo as an initial step toward becoming qualified commissioned officers. This crucial step of the CAF's socialization, along with the professional military education and the unique post-secondary education at the Royal Military College (RMC), can impact the entire

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[170] Department of National Defence, *Defence Plan 2018-2023: Operationalizing Canada's New Defence Policy* (Ottawa: DND Canada,2018), 5.

organization as these officers immediately take on leadership positions with vast influences in establishing the culture within their respective units. New entrants are also more apt to adopt new approaches and attitudes within the CAF as they have not yet been indoctrinated into the traditional predominant culture of the CAF. Colonel (Ret'd) Wakelam, Associate Professor Emeritus in military history and leadership, submits that effective socialization of Officer Cadets needs to start early in their careers and should include the acquisition of values, not just the skills and knowledge of their profession.[171] As with the current trends amongst research into military culture, Wakelam's article primarily focuses on the ethics and education, particularly at RMC. However, his recommendations apply to other aspects of the desired cultural operationalization and training. For example, he suggests that "[i]ntroducing coaching and mentoring at RMC would also have larger implications."[172] Mentorship and coaching, which are absent in the development of officers during their initial development period, is a crucial component of developing a learning organization through training across the CAF. Other competencies that should start earlier in the progression of all leaders are the development of critical and creative thinking. Currently, officers at the Developmental Period (DP) 1 level develop and are assessed on linear and analytical thinking.[173] Critical thinking and creative thinking are only introduced at the DP 2 and higher levels for officers.[174] As illustrated in Figure 4.1, there is a gradual progression from developing

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[171] Randall Wakelam, "Training Won't Get the CAF a New Culture," *Policy Brief* Vol. 7 Issue 2 (July 2021): 3.

[172] *Ibid.*, 3.

[173] Department of National Defence, *Qualification Standard: Common Officer Professional Development (Developmental Periods 1 to 5)*, (Ottawa: DND Canada, 2010), 1-2/3. DP1 includes the initial qualifications to achieve operational functional point; DP2 is intended for 2Lt/A/SLt; Lt/SLt and Capt/Lt(N), DP3 is aimed at Maj/LCdr and LCol/Cdr; and DP4 is at the Col/Capt(N) ranks.

[174] *Ibid.*, 3-50/74.

analytical cognitive capacities to becoming creative and abstract.[175] This approach

establishes a baseline of linear thought that contradicts the concepts that are introduced

later in their careers. The expectation that junior leaders do not require creativity or

critical thinking conflicts with the desired traits of leaders who are required to innovate in

the pan-domain operating environment.

	Expertise	Cognitive Capacities	Social Capacities	Change Capacities	Professional Ideology
DP 5	Strategic	Creative Abstract	Inter-Institutional	Paradigm Shifting	Stewardship
DP 4					
DP 3					
DP 2					
DP 1	Tactical	Analytical	Inter-Personal	Open	Internalized

Figure 4.1 – Leadership Development Framework

Source: DND, *QS: Common Officer PD*, 1-2/3.

As part of leading institutional change at the DP 3 level, Majors and Lieutenant-

Commanders are taught to shape the culture that is conducive to change through the

following activities:

- engaging unit personnel in the comprehensive exchange of ideas on the necessity of change in support of operational and institutional effectiveness;
- encouraging teams and units toward adaptability and innovation in support of operational and institutional effectiveness; and
- rewarding innovative ideas from subordinates that promote operational and institutional effectiveness.[176]

This progression that occurs throughout members' careers, from "leading the people" at

the junior and intermediate levels to "leading the institution" at the senior levels, is aimed

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[175] *Ibid.*, 1-2/3.
[176] *Ibid.*, 3-34/74

at developing the leadership competencies at the pace of increasing diversity and depth of members' responsibilities.[177] However, with the immediate responsibilities of officers to mold the organizational culture and to reinforce the CAF's ethos, they have an immediate requirement for the skills and knowledge of leading the institution.

Learning Organization

The objective of developing the CAF as a learning organization through officer training is also incremental based on the progression through the DPs. A component of the officers' DP 1 learning objective is to develop "a positive attitude and open-mindedness"[178] On the other hand, DP 2 requires officers to provide "feedback or observations on operational or institutional activities/performance, [solicit] experiential information from subordinates, peers and superiors; and [share] experiential information, and knowledge with subordinates, peers and superiors."[179] Both DP 2 and 3 require members to foster creative and innovative culture by "listening actively; expressing confidence in superiors and followers; and encouraging subordinates and peers to learn from mistakes and/or failures."[180] While the progression may seem logical to provide building blocks at each level of officer progression, this model is insufficient in enabling officers to be capable of leading junior members of the CAF immediately upon completion of the DP 1 level training. In order to prepare for leadership responsibilities in a complex operating environment, the CAF must prepare junior officers with the gambit of skills to establish a learning organization with the appropriate culture rather than

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[177] Department of National Defence, B-GL-300-008/FP-001, *Training for Land Operations*, 3-9-1.
[178] Department of National Defence, *Qualification Standard: Common Officer Professional Development*, 3-43/74.
[179] *Ibid.*, 3-44/74.
[180] *Ibid.*, 3-45/74.

simply being open-minded and displaying a positive attitude. Adopting learning organization concepts and promoting them early in officers' DP 1 training will prepare them for future training while preventing them from embracing the aspects of the CAF culture that inhibit growth, innovation, and creativity. DP 2 and higher levels of training, education, and other modes of development should focus on the continuous reinforcement of this training at larger scales, commensurate with the environment and organizational levels at which they are employed.

As officers and NCMs complete their respective DP 1 training, their instructors continually evaluate and assess them based on pre-established standards for their rank and occupation. Throughout their progression, they may be counselled based on their performance, particularly if they fail to achieve the set standards. Counselling is defined in the Training Plan for the BMOQ as "the process of coaching and mentoring candidates to resolve personal, social, academic or psychological difficulties that are negatively impacting their training performance."[181] The intent of the counselling process, based on this definition, is to assist the member rather than be punitive or intentionally add stress on the member. However, the counselling process is directly tied to performance or progress review, which can lead to failure and ceasing of training for the members.[182] Although the CAF requires a mechanism to remove members who do not meet the standards of the training, the direct correlation between mentoring and coaching as mechanisms to escalate levels of deficiencies does not facilitate effective counselling of trainees.

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[181] Department of National Defence, *Training Plan: Basic Military Officer Qualification AIPB* (Ottawa: DND Canada, 2020), 2-5/221.
[182] *Ibid.*, 2-5/221.

Experiential Learning

Within the five DPs that cover the officer professional development continuum, experiential and self-development components are recommended but are outside the purview of formal IT&E.[183] The CAF has made strides in a holistic professional development system by capturing all five developmental periods in a common qualification standard (QS) that includes both the formal training and the informal learning opportunities that occur outside of the training establishments. Although the training plan indicates that recommended experience and self-development activities are identified, it is currently incomplete. Additional information is required to amplify how experience and self-development can be conducted and support the overall professional development process. Experience and self-development should also be an integral part of the training process, not an informal recommended activity.

PLQ and NCM Leadership: CAF's Instructional Baseline

Another course that has far-reaching effects across the CAF's training system is the PLQ. Amongst the various leadership abilities that PLQ develops in the CAF's junior leaders, the successful completion of this course constitutes the primary means for NCMs to attain the qualification to be an instructor, specifically through the Instructional Techniques qualification.[184] Similar to the officer professional development, the NCM leadership development process also follows the same leadership development framework illustrated in Figure 4.1.[185] Because PLQ is part of NCM DP 2 training, the

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[183] Department of National Defence, *Qualification Standard: Common Officer Professional Development,* 1-3/3.
[177] Department of National Defence, *Qualification Standard Non-Commissioned Member Developmental Periods 1 to 5* (Ottawa: DND Canada, 2010), 1-5/7.
[185] *Ibid.,* 1-3/7.

focus of their cognitive capacities are still analytical rather than creative. At this level in their training progression, these Master Corporals (MCpl) and Master Sailors (MS) who complete this qualification have yet to be developed across the meta-competencies. Yet, they are required to instruct candidates through training that prepares them for occupations across the six domains of warfare.[186] One key distinction that the CAF makes is the difference between training and education. The governing documentation for NCM training explicitly states that education and training are separate pillars in the professional development system.[187] Through education, members will gain "a base of knowledge and intellectual skills upon which information can be correctly interpreted and sound judgement exercised."[188] On the other hand, training "provides the skills, knowledge, and attitudes required to perform the assigned duties."[189] With the nature of the work that current and future members of the CAF will be responsible for, the rapid technological advancements within their fields, and the continuous changes in the operating environment, the distinction between training and education is no longer necessary. Instead, education should be embedded within NCM training.

The QS impresses upon the application of mentorship, experience, and self-development to increase proficiency, but in cases where formal training and education are not provided.[190] Although each performance objective also provides direction for experience and self-development within a DP, they are not part of the formal training.

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[186] Based on the Canadian pan-domain concept, six domains are: air, land, sea, space, cyber, and information.
[187] Department of National Defence, *Qualification Standard Non-Commissioned Member Developmental Periods 1 to 5*, 1-3/7.
[188] *Ibid.*, 1-3/7.
[189] *Ibid.*, 1-4/7.
[190] *Ibid.*, 2-41/4.

When direction on experiential learning and self-development opportunities are offered, they are not mandatory aspects of their development and are encouraged to be completed on their own prior to the next phase of their formal training.[191] It is also suggested to the leaders and supervisors to support the informal learning and to reinforce the professional development through coaching and mentorship.[192] The QS for DP 2 level training, including PLQ, does not include the mentoring personnel as part of the formal curriculum and the mentoring process and coaching techniques are only taught at the DP 3 level.[193] However, the training plan (TP), which is derived from the QS, includes mentoring as an objective of the PLQ and the standards to be achieved include participating in the mentoring process and applying the coaching techniques in the development of subordinates. While there may be a lapse in the higher-level documentation and directions, the PLQ TP demonstrates consistency with the desired leadership and instructional model, requiring instruction of coaching and mentoring to junior leaders in order to instruct in the CAF. By delivering instructional training in a directive and linear approach, PLQ fails to address the needs of different learner types and associated educator styles. Instructors can benefit from educational strategies, developing flexibility, and adapting educator roles rather than a step-by-step instruction methodology. By educating junior leaders during PLQ on the educator's roles that fit the cycle of learning as well as practicing mentorship and coaching early in their development, they will be better prepared to instruct students with diverse learning needs. It will also allow for greater creativity and encourage diversity of thought through their instruction.

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[191] *Ibid.*, 2-3/4.
[192] *Ibid.*, 2-4/4.
[193] *Ibid.*, 3-4/45

The PLQ curriculum must also emphasize double-loop learning. The course content emphasizes monitoring learners' progress, motivating, counselling learners, and conducting progress reviews. Rather, instructors should be taught the modes of the learning cycle, experiencing, reflecting, thinking, and action. Greater opportunities for students to reflect on their experiences and directly apply these lessons learnt into their practices throughout their course will offer a deeper understanding of the material and long-term growth within their respective fields. Although AAR is taught and practiced during practical training, these opportunities are limited to activities during field training exercises. The AAR process is not an integral part of the instructional or learning process. Course critiques and end course reviews are common practises within the CAF training system but are intended to provide feedback on the content and delivery of the courses. Facilitating personal and group reflections require a focused and concerted effort to critically analyze experiences with the mentorship of instructors, unimpeded by the evaluation process.

The approach to evaluating PLQ candidates as part of the "Developing Subordinates" performance objective is also limited to a 15 multiple choice questions test with a 60% pass mark.[194] The lack of opportunity to practice and learn from experiences significantly hinders the development of these junior leaders. In addition, there is very little room based on the current scheduling of the course, which limits the instruction to ten 40-minute periods per day, and additional training will not extend the course.[195] The time restrictions limit the ability of instructors to include additional opportunities for

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[194] Department of National Defence, *Training Plan: Non-Commissioned Member – Primary Leadership Qualification* (Ottawa: DND Canada, 2015) 173.
[195] *Ibid.,* 6.

experiential learning, coaching, or mentoring. As part of the "Lead Subordinates" performance objective, the "Explain adapting to external change" teaching point includes supporting innovation and experimentation, learning from experience and those who have experience, culture, and leadership styles.[196] Greater emphasis should be placed on the experimentation and the establishment of a culture that fosters innovation through leadership. This should not only be a part of a lesson but a consistent theme throughout the course and the "Instructing Personnel" performance objective.

The assessment for "Instruct Personnel" component of the PLQ consists of the following:

- practical assessment consisting of preparation and presentation of a knowledge lesson;
- practical assessment of preparation and presentation of a skill lesson; and
- drill lesson at section level.[197]

Instructional assessments are based on candidates' ability to deliver standardized and rigid lessons in front of classrooms rather than on their ability to fulfill various teaching roles based on the needs of students and apply associated instructional techniques.

Instructional Strategies

The North Atlantic Treaty Organization Education and Individual Training Directive defines the instructional strategies as "the combination of instructional methods, media, and the environment within which they are used to conduct instruction.[198] The Canadian IT&E System (CFITES) manual also uses the same

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[196] *Ibid.,* 29.
[197] *Ibid.,* 181.
[198] North Atlantic Treaty Organization, SH/PLANS/J7/PLL/JC/15-309689/1, *Bi-SC Education and Individual Training Directive (E&ITD) 075-007* (Belgium: Supreme Headquarters Allied Powers Europe, 2015), 48.

definition but expands by describing it as, "how the subject matter will be taught."[199] The CFITES model suggests that the instructional methods used for CAF training require methods of instruction that are consistent with the objectives and that different types of lessons demand different methods, such as procedures in contrast with concepts or principles.[200] For instructors to be capable of being flexible in their instructional techniques and of adapting to the types of lessons, they require development in the different style of learning and must be capable of shifting from the facilitator, coach, subject expert, and evaluator. The CAF's learning environments include centralized instruction, distributed instruction, and combination.[201] Based on the current baseline requirements of instructional training, instructors lack the preparation for blended learning or distributed. According to Scoppio, a professor at the RMC with expertise in military education, culture, and organizational learning, the "[l]ack of instructor support and a perceived reluctance to change also contribute to the limited or inappropriate presence of learning technologies and consideration of pedagogical approaches."[202] Although learning technologies have been embraced across military and civilian institutions, additional training on both pedagogy and learning technologies, as well as "standards of practice and institutional accountability", are required to face future challenges.[203] Across the CAF, the COVID-19 pandemic has forced changes to training delivery. However, the rapid and hasty reaction to the demand for distributed learning

[199] Department of National Defence, *Canadian Forces Individual Training and Education System: Manual of Individual Training and Education* Vol 4 (Ottawa, DND Canada, 1999), 12.

[200] *Ibid.*, 13.

[201] *Ibid.*, 17-18.

[202] Grazia Scoppio and Leigha Covell, "Mapping Trends in Pedagogical Approaches and Learning Technologies: Perspectives from the Canadian, International, and Military Education Contexts," *Canadian Journal of Higher Education* Volume 46, No. 2, (2016) 137.

[203] *Ibid.*, 139.

and hybrid approaches has not afforded deliberate adjustments to the instructional

techniques of CAF instructors. The momentum and benefits achieved through the

distributed and blended environment must not be lost because of the challenges the

instructional staff face in the unfamiliar approaches to training delivery. A successful

transformation and modernization strategy to implement virtual and open learning must

be supported by a clear vision, and the dedication of appropriate resources.[204] The

implementation of virtual, open, and hybrid training delivery provides avenues to vary

the learners' settings to match the types of learners and the content being taught.[205] As

contemporary methods of training delivery exceed the current training offered to military

instructors through PLQ, these methods might seem to be unfit as tools for training

military members. However, there is currently a significant gap in instructors'

understanding of innovative methods of instruction. In contrast, the younger generations

entering the Forces are well versed in learning in technologically enabled environments.

Current education trends and the rapid development of educational tools will be valuable

to CAF's training, especially with the blurring of the boundaries between education and

training. Despite advocating that the CAF considers the types of learners when

developing the learning environment, it only represents the microsystem and is missing

other layers of the learning environment. Beyond the microsystems, otherwise referred to

as the immediate setting, instructional staff and the greater instructional leadership

require an appreciation for the mesosystem, exosystem, and macrosystem. In addition to

the virtual or physical setting that students are taught, the personal settings, social

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[204] *Ibid*., 139.

[205] Virtual – online delivery; blended – integration of online/virtual and traditional face-to-face; and open –
providing educational resources for independent and self-guided learning.

structures that influence learners, and the overarching cultural values are difficult to understand and shape. Therefore, instructors require a deeper appreciation of the organizational ethos and must be afforded flexibility, accompanied by the appropriate training and education.

Israeli Defence Forces: A Case of Experiential Learning

Attributes such as adaptive, agile, innovative, and creative are often professed as central to the pan-domain culture. These traits are also commonly associated with the officer corps within the IDF, which have resulted in many of their military successes in the emerging domains, particularly in the world of cybersecurity. Renowned for Unit 8200's successes in developing some of the world's most elite cybersecurity capabilities, the IDF produces talented signals intelligence specialists and cyber operators who are "audacious in thought and action".[206] The unique training culture combined with the close networking with Israel's information technology private sector results in a flourishing cyber industry.[207] The IDF practises vastly different methodologies to train and develop its leaders, especially with their junior officers. Junior officers in the IDF are trained for tactical commands, including at the company level, through a combination of academics, military exercises, simulation, and war games.[208] They are given opportunities to meet with foreign officers to broaden their perspectives and engage with experienced officers during their third year of their formative training, which enriches

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[206] Kevin Townsend, "From IDF to INC: The Israeli Cybersecurity Startup Conveyor Belt," *SecurityWeek*, February 28, 2018, https://www.securityweek.com/idf-inc-israeli-cybersecurity-startup-conveyor-belt.

[207] *Ibid*.

[208] Dan Fayutikin, "The Officer's Academic Training Options and His Preparation for Fighting in the Limited Conflict Area," *Defense & Security Analysis* 23, no. 1 (2007): 107-108.

their knowledge and awareness of their occupation.[209] There is an emphasis on the

development of experience throughout the officer development to supplement the

classroom learning. During the Tactical Command College (TCC), 22 to 23 year old IDF

Ground Force Lieutenants with prior field experience as NCMs prepare to be company

commanders by obtaining a two-year academic degree from a civilian university along

with conducting case studies, practical exercises, and attending trips to historically

relevant locations in Israel and abroad.[210] As part of their leadership development, they

are placed in simulated situations that challenge their management, writing, and conflict

management abilities with instruction from a battalion commander.[211] The tendencies of

the IDF members to rely on experience-based intuition and problem-solving abilities

have historical underpinnings that stem from the successes of commanders during

previous conflicts including the Israeli War of Independence.[212] This generation of

officers were also not exposed to the classic and modern English literature on warfare

because of the unavailability of translated texts. IDF officers are described as having a

"doer' rather than 'thinker' mentality, referred to as *bituism* or *bitzuism*; this ubiquitous

cultural tendency is consistent across literature that discusses IDF culture. As a result, the

IDF favours learning from their immediate battlefield successes rather than academic

lessons, coupled with their common sense, intuition, and overall performance.[213]

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[209] *Ibid.*, 108.

[210] Yaakov Lappin, "IDF Tactical Command College, 'Israel's West Point,' increasingly shapes ground forces," *Jewish News Syndicate*, December 2, 2020, https://www.jns.org/zelensky-announces-ukraine-israel-free-trade-agreement-to-take-effect-in-january/.

[211] *Ibid.*

[212] Avi Kober, "What Happened to Israeli Military Thought?" *Journal of Strategic Studies* 34, no. 5 (2011): 721. https://www.tandfonline.com/doi/abs/10.1080/01402390.2011.561109

[213] Raphael D. Marcus, "Military Innovation and Tactical Adaptation in the Israel-Hizballah Conflict: The Institutionalization of Lesson-Learning in the IDF," *Journal of Strategic Studies* 38, no. 4 (2015): 504. https://www.tandfonline.com/doi/abs/10.1080/01402390.2014.923767.

The cultural differences were on full display during a nine-week officer training course at the IDF's "Bahad 1" base in 2015.[214] During the IDF course designed to prepare their Lieutenants to act as company commanders, twelve officers from foreign militaries observed that "IDF soldiers refer even to their superior officers by their first names" and noted high tendencies of "hot tempered" IDF officers to improvise.[215] Despite the average age of IDF lieutenants being 21 years old and early in their careers, they were informal with their superiors and relied on improvisation or their own memory during their practical exercises.[216] What these non-Israeli officers attending the course observed were the cultural tendencies of *sabras*, or those who are native to Israel.[217] Because Israel consists of a society with a small power distance, the IDF's social norms also maintain a high degree of egalitarianism, informality, and general disregard for a strict adherence to hierarchy.[218] Their style of communication is normally direct, even confrontational, and they endeavour to be honest and authentic, rather than pacifying or diplomatic style, which is perceived as insincere and artificial.[219] The mid-level leadership roles within the IDF are both interactive and dynamic, often being able to convince their higher levels of leadership to delegate authorities to tactical commanders that are seen as mavericks.[220] The predominant style of communication and decentralization of responsibilities in training are also prevalent in how they conduct operations. While these dynamics are

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[214] Judah Ari Gross, "IDF Officer Training Course Goes Global," *The Times of Israel*, October 26, 2015. https://www.timesofisrael.com/idf-officers-training-course-goes-global/.
[215] *Ibid*.
[216] *Ibid*.
[217] Dima Adamsky, *The Culture of Military Innovation : The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the US, and Israel* (Stanford, Calif: Stanford Security Studies, 2010):110.
[218] *Ibid*., 110.
[219] *Ibid*., 110.
[220] Raphael D. Marcus, "Military Innovation and Tactical Adaptation in the Israel-Hizballah Conflict: The Institutionalization of Lesson-Learning in the IDF," 503.

entrenched in their societal culture, the unique application within the military context is systemically reinforced throughout their training. Because the maverick officers, who are engaged at the tactical level with operational experiences, are given autonomy by the higher levels of command, they are empowered to create tactics and solutions for their particular battlefield problems.[221]

However, a common criticism of the IDF culture is that the leaders have historically tended to display a lack of professionalism and anti-intellectualism due to the heavy dependence on improvisation.[222] Liddell Hart, the prominent British military historian and theorist, referred to the Israeli commanders as practical soldiers, negatively associating their over-reliance on their experience and intuition rather than "intellectually acquired knowledge."[223] Despite their limited reliance on theories and concepts from historical literature, the informal relationships between different levels of the hierarchy can facilitate the transfer of lessons learnt to other units that will face similar situations in operations.[224] Recent innovation in knowledge management has enabled the IDF to formalize their knowledge management processes through the development of repositories of [AARs].[225] The formalized AAR process and the documentation of lessons learnt are already institutionalized within the CAF. However, there are stark differences in the interpersonal dynamics and communication styles. The IDF's successes in adopting a knowledge management framework is a consequence of their "flexibility, informality,

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[221] *Ibid.*, 507.
[222] Avi Kober, "What Happened to Israeli Military Thought?" 723.
[223] Avi Kober, "What Happened to Israeli Military Thought?" 708; Basil Henry Liddell Hart, B. H. Thoughts on War 1944.
[224] Raphael D. Marcus, "Military Innovation and Tactical Adaptation in the Israel-Hizballah Conflict: The Institutionalization of Lesson-Learning in the IDF," 513.
[225] *Ibid.*, 513.

intuition, and 'doer' ethos".[226] There is also recognition from the IDF that purely relying on on-job-training is insufficient, and greater emphasis has been placed on providing the wide range of "tools", including academia.[227]

Their innovative and forward-thinking approach to training is also evident in the IDF's use of technologies to simulate combat environments. As they prepare for the complexities of the modern battlefield, the company commander course will use virtual-reality simulators.[228] The simulated training environment allows for better analysis of their performance while reducing the risk to those participating in the training. Through immediate feedback, reflection, and immediate implementation into their practice, students can achieve a deeper level of learning. Risk mitigation in simulated environments also allows students to be audacious without risking their safety. The IDF will implement simulators as part of their basic training by the end of 2022, which is anticipated to improve their soldiers' skills at a faster rate.[229] The IDF has also recently taken further steps towards preparing their tactical leaders for the multi-domain co-operation by incorporating a three-month training programme that combines experienced company commanders with various corps, including those with specialization in the infantry, armoured, engineering, intelligence, the air force, and command, control,

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[226] *Ibid.*, 513.

[227] Yaakov Lappin, "IDF Tactical Command College, 'Israel's West Point,' increasingly shapes ground forces," *Jewish News Syndicate*.

[228] Anna Ahronheim, "IDF's Company Commander Course to Finish This Week," *The Jerusalem Post*, September 14, 2020, https://www.jpost.com/israel-news/idfs-company-commander-course-to-finish-this-week-642217.

[229] Emanuel Fabian, "IDF turns to new training simulators in quest to level up recruits," *The Times of Israel*, December 16, 2021, https://www.timesofisrael.com/idf-turns-to-training-simulators-in-quest-to-level-up-new-recruits/

communications, computers and information (C4i).[230] Coupled with their unique ability to communicate openly and informally without concern of the rank structures, the collaboration across the different disciplines presents experiential learning opportunities in the pan-domain environment. The differences in their training culture and communication practices offer potential avenues to force change in the training culture within the CAF. Although there are apparent differences between the Canadian and Israeli military cultures, studying the effects of diverging leadership and instructional models presents opportunities to deliberately shape and operationalize the CAF training culture.

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[230] Yaakov Lappin, "IDF rolls out multi-dimensional concept into officer training," *Defence Weekly*, Mar 2, 2021, https://www.janes.com/defence-news/news-detail/idf-rolls-out-multi-dimensional-concept-into-officer-training.

CHAPTER 5: CONCLUSION

The case studies of the CAF's officer basic training, NCM leadership and instructional training, and the IDF's officer development illustrate contrasting cultural dynamics that have profound impacts on the behaviours of military organizations and its members. The sources of the CAF's culture an be found in historical and normative influences, including the unification of the CAF as well as the continued desire for efficiencies and interoperability with the U.S. Many of the resulting cultural influences have manifested in the rigidity of the military structure and the bureaucratic nature of the organization, which have impeded on the efficacy of training CAF members for the complexities and uncertainties of the future operating environment. Future successes as a pan-domain force will be determined by how the CAF transforms and adapts to the rapidly changing characteristics of warfare through the deliberate shaping of the organizational culture.

Future of CAF's Training Culture

Effecting any lasting change to individual training in the CAF is predicated on the modernization of doctrine. Adaptiveness and improvisation should be considered as essential to training members of the CAF and central to the organizational ethos. The CAF ethos must also be optimized for the pan-domain environment and the espoused values must adopt the description of the operationalized culture advocated in the PFEC. Holistically, consistency amongst governing policies, training publications, doctrine is crucial to generating the desired modernization of the CAF.

The strict distinctions between training and education are becoming obsolete as the aim of training becomes increasingly technical and oriented towards preparing

members for uncertainties, rather than purely instilling processes and techniques. With

the emergence of learning technologies that provide flexibility, distributed delivery of

instruction, and simulated virtual environments for trainees, many of the contemporary

concepts on education and pedagogy are increasingly relevant to the development of

military members. The CAF must continue to maintain the momentum achieved

throughout the COVID-19 pandemic in enabling various forms of blended and open

learning. Successfully implementing such changes also demands the dedication of

additional instructor training while supporting instructors with greater resourcing of tools

that enable them to cater to different learning styles. As instructors gain the appropriate

knowledge and expertise in instructional techniques, greater autonomy must also be

granted to them to adapt their delivery of the material and improvise as necessary based

on the content and the students. Greater investment is also required to challenge the

current structured learner settings and deliberate design of the classroom,

accommodations, learning tools, and various aspects of students' personal settings to fit

the intent of the training. In lieu of listing the minimum resources required for each

individual course within the training plan, instructional staff must design the environment

with a holistic view of the learner setting. For example, there is a tendency to seek

uniformity between courses, within a school, and across the formation; however, the type

of learner setting that is needed to develop standardized techniques to climb a

communications tower will be significantly different from that of students learning the

Transmission Control Protocol/Internet Protocol (TCP/IP) and applying this knowledge

to cybersecurity. While the "one size fits all" approach may offer efficiency and

uniformity that will satisfy those who are decisively inculcated into the military culture,

literature on leaners' settings and hidden curricula suggest a need for greater emphasis to be placed on deliberately designing the overall learning environment. These will inevitably result in many bespoke requirements and dedication of additional resources to the training establishments.

The current methods of evaluation and counselling does not facilitate effective mentorship and coaching. Rather, they create risk aversion, hinder honest dialogue between the instructors and students, and encourage students to "play the game" in order to succeed in the course, instead of achieving deep learning. Greater emphasis must be placed on providing opportunities to experiment and reorienting remedial measures to self-reflection rather than relying on the counselling procedures to correct performance deficiencies. To encourage and reward divergent thinking within the training system, trainees require opportunities to safely gain experience, reflect, and share their lessons learnt without the fear of retribution or pressure to immediately acquiesce. Disassociating the instructors' counselling of students from the process of training failures is likely to benefit the members' reception of the interactions with the instructor cadre as coaching and mentorship will be more accessible and not limited to acute circumstances.

Expanding opportunities for collaboration between corps, regiments, and elements consistently throughout the development of military members will also allow for valuable cross-discipline transfer of knowledge outside of formal interaction on senior leadership courses. These interactions will challenge the cultural assumptions that are entrenched in the various divisions across the CAF.

Further Research

This research project was primarily focused on the CAF's individual training. However, many of the concepts on learning organizations and experiential learning are applicable to the CAF's collective training. Therefore, additional research on the CAF's training, particularly in joint environments and the major culminating collective training events for high readiness forces, should be reviewed. Despite not addressing the DND, writ large, many of the deductions made about the CAF culture are relevant to the organizations outside of the purview of the Chief of Defence Staff. Although the organizations that report to the Deputy Minister of National Defence or directly to the Minister of National Defence do not have the same training and education system as the CAF, optimizing organizational learning across the department will facilitate the adoption of a learning culture and drive necessary changes that the evolving security environment necessitates.

This research was constrained by approximately a seven-month period based on the timeframe allotted by the JCSP. As a result, it was not feasible to conduct a social science research with human subjects. Further research on this topic should involve greater involvement of human subjects within the organization through various methods of experimentation, including surveys and interviews. A combination of qualitative assessments and quantitative analysis of the data will offer a more comprehensive understanding of the espoused values and underlying basic assumptions that exist within the military. A comparison of empirical data between CAF members and militaries contrasting organizational cultures, such as the IDF, may also present tangible solutions to adopt new policies or doctrinal concepts that can change the CAF training culture.

Transforming the CAF Training Climate

The current CAF approach to training is no longer suited to prepare it members for future wars. The procedures and techniques followed by CAF training institutions, albeit efficient, are ineffective in establishing the necessary culture that allows for organizational learning, creativity, and innovation to thrive. The CAF is in dire need of a transformation aimed at removing the barriers created by the bureaucracy and the risk aversion amongst leaders of the CAF's training institutions. There is a clear demand for greater experiential learning as a central component of training and the training culture must reflect that of a learning organization. The CAF must transform its institutional behaviors through training designed to operationalize its culture for the pan-domain battlespace. With the uncertainties and the ambiguity of the future operating environment, current and future members of the CAF need to be adaptive, cognitively flexible, creative, and innovative. The training culture must also foster improvisation. The risks of complacency and accepting the status quo are far too great for the defence and security of Canada in the rapidly evolving battlespace.

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