



**Canadian Operation Assessments:
We Are Not Doing Things Well, Nor Are We Doing the Right Things**

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Canadian Operation Assessments: We Are Not Doing Things Well, Nor Are We Doing the Right Things

The Canadian Armed Forces (CAF) recently published the “Pan-Domain Force Employment Concept” (PFEC) to articulate how the CAF shall adapt to maintain relevance and effectiveness in the current global environment. The PFEC directs that the CAF shall take a “campaigning approach” to compete with our adversaries as campaigning will provide a focused, persistent, and long-term view for CAF operations. Furthermore, PFEC lays out the three components of a campaigning approach: 1. analyzing campaign factors and defining operational military problems; 2. orienting to the operational military problems and designing integrated campaigns; and 3. assessing and adapting campaigns.¹ It is the third component, the concept of campaign assessment, that this paper will focus on. Though assessment is identified as an important component of campaigning, the CAF lacks a clear and coherent doctrine for campaign or operation assessment. This paper will argue that the current CAF approach to operation assessment is ad-hoc and a knee-jerk reaction to either federal government reporting or military alliance operational requirements. The paper will then examine how the CAF can develop a deliberate and sustainable CAF organizational approach to operational assessment.

Are We Doing the Right Things?

Before discussing operation assessment in the CAF, we must clarify why the CAF needs to conduct operation assessment. The first argument is that the CAF has been told to do it as there are the reporting requirements of higher military headquarters, such as NATO. To those who would argue that operation assessment reporting is simply a NATO invention, it's not. NATO is responding to “...an international consensus (that) has emerged that any organization intervening in a complex crisis needs to have a review and feedback process to determine the effectiveness of the intervention and make recommendations for changes—NATO and other military organizations are no exception.”² If the CAF has to do it, it should do it effectively. The second argument, and most important rationale, for conducting operation assessments is that it improves military planning and decision-making. Pulling from Canadian, American, and NATO doctrine, military art is based on decision-making to ensure that military objectives are met. These decisions are made by commanders who must assess the progress made towards objectives and any changes in the operating environment, forecasting any obstacles and changes to the military plan to address those obstacles or move to the next phase of an operation. The process of operation assessment is how this is accomplished.³ A formal assessment process is needed instead of an informal, intuitive assessment based on a commander’s judgement because of the increasing complexity of the operating environment as highlighted in the PFEC. The CAF must operate across “five interrelated domains: maritime, land, air, space, and cyber, as well as the

¹ Canadian Armed Forces, “Pan-Domain Force Employment Concept,” 38.

² NATO, “NATO Operations Assessment Handbook,” 0–1.

³ NATO, 0–3; Air Land Sea Application Center, *MTTPs for Operation Assessment*, 1.

information environment.”⁴ Assessing effectiveness across that breadth requires integrating many separate elements across varied specialties, and physical distance. Coordinating the action of a varied and disparate group requires a plan or commonly understood process to orient them all and provide the aim. With operations being carried out across domains to achieve effects across domains, the complexity exceeds the capacity of a single person or a small group to properly assess the situation and progress made towards an identified objective intuitively.

To effectively discuss Canada’s ability to conduct campaign assessments, the concepts and scope of assessment must be defined to ensure a common understanding. First is the general definition of “assessment”. Webster’s dictionary definition of *assessment* that pertains to this paper is “the action or an instance of making a judgment about something.”⁵ The US Army refines the dictionary definition of *assessment* as “the determination of the progress toward accomplishing a task, creating a condition, or achieving an objective”⁶. The US Army doctrine further elaborates:

Assessment occurs in varying degrees at all echelons. The situation and echelon dictate the focus and methods leaders use to assess. Everyone conducts assessments. While commanders have staffs helping them assess, individual Soldiers assess whether or not to continue to fight. Leaders assess their Soldier’s “morale.” Normally, commanders plan for and assess those specific operations or tasks that they were directed to accomplish. This properly focuses collection and assessment at each echelon, reduces redundancy, and enhances the efficiency of the overall assessment process.⁷

Though the US Army definition provides a useful general concept of assessment, NATO further narrows the scope of assessment to the concept of *operation assessment*. It defines it as “the activity that enables the measurement of progress and results of operations in a military context, and the subsequent development conclusions and recommendations that support decision-making.”⁸ The concept of operation assessment is intentionally narrow in scope to avoid the ambiguity that comes with the general definition of assessment and operation assessment is also found in US joint doctrine.⁹ In summary, *assessment* and *operation assessment* are not interchangeable and will not be used interchangeably in this paper.

How Are We Doing Things Well?

This section will explore the recent history of operation assessment in the CAF, the current status of operation assessment in the CAF, and what obstacles prevent the CAF from

⁴ Canadian Armed Forces, “Pan-Domain Force Employment Concept,” 19.

⁵ Merriam Webster, “Definition of ASSESSMENT.”

⁶ Headquarters, Department of the Army, *FM 5-0 Planning and Orders Production*, paras. 8–4.

⁷ Headquarters, Department of the Army, *FM 5-0 Planning and Orders Production*, para. 8–4.

⁸ NATO, “NATO Operations Assessment Handbook,” 0–7.

⁹ Air Land Sea Application Center, *MTTPs for Operation Assessment*.

having a sustainable organizational approach to operation assessment or even an explicit doctrine for operation assessment. First is a lack of a cohesive and sustainable operation assessment framework. Second, there are competing data collecting and reporting priorities. Third is a lack of resources allocated to operation assessment. Finally, the CAF has a cultural fatigue regarding metric collection and reporting that impacts the previous three.

First, though informal assessments are implicit in CAF doctrine on decision-making,¹⁰ an operations assessment process is not comprehensively integrated into Canadian doctrine. The concept of formal assessment exists in Canadian targeting doctrine. However, operation assessment is not mentioned in the Canadian Operational Planning Process (OPP)¹¹, or any other CAF doctrine. Targeting doctrine has one section describing assessment focused primarily on combat assessment. Combat assessment “examines the effects produced on the targets to determine if mission objectives were achieved in accordance with the commander’s intent.”¹² There is a single short paragraph on “effects assessment”, which mentions assessing the effectiveness of operations, but not how to do it.¹³ Though some have tried to apply the targeting methodology and combat assessments in an operation assessment context, experiences from the US Army warn against it.¹⁴ As the targeting methodology isn’t effective for operation assessment, the search must continue. The OPP is the process the CAF uses to plan at the strategic and operational levels and publication even has a chapter on campaigning, which could be a useful start in addressing the PFEC requirements.¹⁵ Unfortunately, neither the chapter on campaigning nor the one detailing the steps of OPP, mention operation assessment. The closest is a paragraph in the final step of OPP that speaks to progress review: “Conduct Progress Review of an Operation. Progress reviews are conducted when a plan is being executed. For example, during an operation, the plan must be reviewed continually by comparing its validity in the current situation.”¹⁶ Even if this was considered addressing operation assessment, which it should not, the assessment has been placed at the end of the process without being considered throughout the planning process. This is contrary to NATO and US doctrine on operation assessment. It states that for assessment to be effective, it must be integrated from the start of the planning process.¹⁷ Additionally, members working in the Canadian Joint Operations Centre (CJOC) assessment cell confirmed that operation assessment is not effectively integrated into the

¹⁰ CAF and Army expectations of commanders and their staffs at all levels are to collect data, analyze it, and make estimates and judgements to guide decision making. Joint Doctrine Branch, *CFJP 3-0 — Operations*, 3–5; Army Doctrine Centre, *COMMAND: The Operational Function*, 10.

¹¹ CFEC Joint Doctrine Branch, *CFJP 5-0 The Canadian Forces Operational Planning Process (OPP)*.

¹² “CFJP 3-9 Targeting (1st Edition),” para. .0433.

¹³ “CFJP 3-9 Targeting (1st Edition),” para. .0432.

¹⁴ Payne, “Assessing the Modern Fight.”

¹⁵ CFEC Joint Doctrine Branch, *CFJP 5-0 The Canadian Forces Operational Planning Process (OPP)*, chap. 2.

¹⁶ CFEC Joint Doctrine Branch, 4–15.

¹⁷ NATO, “NATO Operations Assessment Handbook,” 1–3; Headquarters, Department of the Army, *FM 5-0 Planning and Orders Production*, 5–1.

planning process.¹⁸ This is troubling, as CJOC is the headquarters responsible for the command and control of operations.¹⁹

The next consideration is the competing assessment requirements of the CAF. Current assessment activities at the CAF operational level appear to be focused on collecting metrics to satisfy the Government of Canada reporting requirements and not operation assessment. The Departmental Results Framework (DRF) requires departments to report to parliament resources spent and results achieved.²⁰ Furthermore, the reporting drives the collection of measures of performance and does not truly consider measures of effectiveness. In other words, the DRF is driving operational headquarters to focus on reporting what has been done, not assessing how well actions resulted in the intended outcome.²¹ When one looks at the Department of National Defence (DND) reports on CAF operations, the metrics and indicators are nearly exclusively on what the CAF did, expressed in some form of percentage. For example, the effectiveness of the CAF in meeting the objective “North America is defended against threats and attacks” is essentially measuring how many NORAD operations the CAF participated in, with no explanation of how that is linked to the outcome.²² There is tension between the government reporting requirements and effective assessment practices that the current CAF assessment capability cannot recognize or address, according to a Defence Research and Development Canada (DRDC) report studying the CJOC assessment function.²³

The next issue is the resources allocated to operation assessment in the CAF. The DRDC report highlights two personnel issues contributing to the resource shortage. The first is the lack of formal operation assessment training available to military personnel. There is a single NATO course on operation assessment, run only once a year, on which the CAF could only send one or two soldiers each year. This is insufficient to provide CJOC the required capacity²⁴, let alone any other CAF headquarters. The next issue is the availability of civilian Operational Research and Analysis (OR&A) working for DND. Though these OR&A personnel are well educated, trained, and experienced in the fields of research, data collection, and assessment, there are limited numbers of them, and they are allocated to many other projects, not just operation assessment.²⁵ Civilian OR&As should not be depended on to create a sustainable operation assessment capacity in the CAF. As an example of this issue, the current assessment cell in CJOC has up to four people. Those four people are not permanently assigned to the assessment cell and there has been a constant rotation of the members, and often assessment is not even their primary duty.

¹⁸ O’ Neil, “Operational Assessment Email.Msg,” April 23, 2024.

¹⁹ Defence, “Canadian Joint Operations Command (CJOC).”

²⁰ Secretariat, “Departmental Results Reports.”

²¹ Banko, MacLeod, and Donohue, “Operations Assessment: Measuring What Matters,” 9.

²² Minister of National Defence, “2021-22 Departmental Results Report (Canada. Department of National Defence).” 29.

²³ MacLeod and Banko, “A Canadian Perspective on Military Assessments,” 29.

²⁴ MacLeod and Banko, 29.

²⁵ MacLeod and Banko, 29.

The training and experience of the people in the cell varies wildly and rarely have they completed any formal operation assessment training.²⁶ Considering DND included at least 17 ongoing operations in their 2022 DRF report²⁷, it is unlikely that such a small, under-trained, and under-prioritized team is effectively conducting operation assessments for CJOC.

Finally, the cultural obstacle that the fatigue of CAF members with data collection and reporting presents to operation assessment. In relation to this fatigue, the overworking of CAF members must be considered a contributing factor. Studies on the military culture in Canada have noted a consistent complaint from CAF leadership of being overtasked.²⁸ Additionally, Canadian scholars have identified the concept of “resource-mission” mismatch in the CAF.²⁹ It refers to army officers and their units having so many training and reporting requirements placed upon them, that they cannot possibly complete them all. They often provide reports telling their superiors what they want or expect to hear, not the reality.³⁰ This negatively influences the amount of effort leadership teams are willing to spend on collecting and reporting metrics in general; furthermore, it questions the validity of the data being provided. This is further reinforced by the operation assessment experiences of the International Security Assistance Force in Afghanistan; there was such a proliferation of collection requirements for the operation that the data could not be gathered by deployed soldiers and be accurate.³¹ Additionally, it must be assumed based on the security environment of Afghanistan in 2011 that these soldiers were risking their lives just to collect metrics. Imagine the effect on a formation’s morale when a soldier is killed during a “public opinion polling” mission. The DRDC report succinctly summarizes the challenge: “Operations assessment involves collecting data from operators in the field. Their time and capacity are precious and should be respected. Time to assess comes out of time for doing”.³² Contributing to the cultural fatigue is what Schroden calls “the failure cycle for assessment”. The cycle

“...runs as follows: poor and confusing doctrine leads (in part) to inadequate (or no) training of assessment practitioners, which leads to poor assessment processes and products, which leads to commanders who are uninterested in assessment, which leads to a lack of advocacy for fixing assessment, which leads to a perpetuation of poor doctrine—and the cycle continues.”³³

²⁶ O’ Neil, “Operational Assessment Email.Msg,” April 23, 2024.

²⁷ Minister of National Defence, “2021-22 Departmental Results Report (Canada. Department of National Defence),” 4–7.

²⁸ English, “Corruption in the Canadian Military?,” 36.

²⁹ English, 35.

³⁰ Wong and Gerras, “Lying to Ourselves,” 4–8.

³¹ Downes-Martin, “Operations Assessment in Afghanistan Is Broken—What Is to Be Done?,” 6.

³² MacLeod and Banko, “A Canadian Perspective on Military Assessments,” 8.

³³ Schroden, “Why Operations Assessments Fail—It’s Not Just the Metrics,” 7–8.

The DRDC report identifies factors in the Canadian context that align with the American experiences, with less emphasis on doctrine and more on the assessment processes, training, and commander influence.³⁴ The key consideration is commanders drive how and what is reported by the operation assessment process, and they directly impact the allocation of resources to the assessment process.

How Are Others Doing It?

This paper will now compare assessment doctrine from the US and NATO to ascertain suitability as a model for the CAF. The suitability criteria for the doctrine are based on ease of adoption by the CAF, the comprehensiveness of the doctrine, and interoperability with allies. The US is Canada's most important ally, with whom Canada has had a bilateral continental defence treaty since 1958. The North American Air Defence Agreement exemplifies the primacy of the military relationship between the US and Canada as it formalizes a bi-national command of the air defence of North America.³⁵ So, interoperability and interchangeability of concepts and processes with the US must always be thoroughly considered. Additionally, Canada and the US are both part of NATO and the collective defence responsibilities of that alliance. Thus, interoperability with NATO allies is also an important consideration, though secondary to considerations of continental defence according to the Canadian government's defence policy. The Canadian defence policy places the defence of Canada as the highest priority, followed closely by the defence of North America, the third priority is engagement abroad.³⁶ Although historically, Canada has strong ties to the UK and many Canadian military traditions and organizations were heavily influenced by the UK, their assessment doctrine was intentionally left out of this review. UK doctrine on campaign execution and assessment has been incorporated into NATO doctrine, specifically AJP-3 Allied Joint Doctrine for the Conduct of Operations³⁷, which means that for the sake of this doctrine review, NATO doctrine covers the UK.

Two key doctrine publications cover assessment in the US Army. One covers integrating assessment into the planning process³⁸, while the other covers the assessment process in more detail.³⁹ It should be noted that this is not specifically the operation assessment process, but a general formal assessment process that can be applied to operation assessment. A key point raised in the US Army doctrine is a spectrum of assessments from informal assessments conducted by individuals with minimal resources on one end, to formal assessments conducted by a large staff with dedicated resources on the other. Examples of informal assessments would be those made by military commanders based on direct observation, staff estimates, and

³⁴ MacLeod and Banko, "A Canadian Perspective on Military Assessments," 5, 11, 25.

³⁵ Government of Canada, "Agreement Between the Government of Canada and the Government of the United States of America on the North American Aerospace Defense Command."

³⁶ "Canada-Defence-Policy-Report.Pdf," 59–61.

³⁷ See the header on each page of the publication, "JDP 3-00, Campaign Execution (3rd Edition)."

³⁸ Headquarters, Department of the Army, *FM 5-0 Planning and Orders Production*, chap. 8.

³⁹ Headquarters, Department of the Army, *ADP 5-0 The Operations Process*, chap. 5.

operations reporting.⁴⁰ Comparatively, formal assessments require more than just dedicated staff and resources, there must also be a formal assessment plan. Though the US Army does not have a prescribed checklist to conduct assessments, as each situation will be different, it has a six-step process used to create the assessment plan and conduct assessment during the preparation and execution of operations.⁴¹ These steps appear sequentially and logically and the US Army publications describe in detail how to integrate the assessment process, step by step, into the Military Decision-Making Process (MDMP). However, US Army doctrine does not cover techniques and methodology for assessment. For that, it refers the reader to the US Joint doctrine on operation assessment.⁴² The US Army doctrine is a useful model for the CAF as the MDMP and OPP are very similar in sequencing and methodology. Each process covers analyzing the received mission and the operating environment; developing, assessing, and selecting a course of action (COA); and then completing details of the plan and drafting orders. The primary difference is that the MDMP breaks the COA stage into four steps, while the CAF keeps it as one; however, the actions taken remain the same.⁴³ Based on this interchangeability, the formal assessment process of the US Army could be easily integrated into the steps of OPP.

US joint doctrine on operation assessment, ATP 5.03, builds upon the six general assessment steps seen in the US Army but focuses the scope specifically on the assessment staff and techniques and methodologies used during the planning and execution of operations. For example, there are 16 pages covering techniques and methodology for developing an assessment framework.⁴⁴ There is sufficient detail in the publication to inform an American staff group on how to integrate operation assessment into the joint planning process. The NATO doctrine on operation assessment is similar to the US joint doctrine. This is likely because the NATO doctrine was developed during the wars in Afghanistan and Iraq, based on the references included in the NATO handbook,⁴⁵ when the US was the lead framework nation during both those conflicts. It cannot be easily determined which doctrine influenced what aspect of each other, nor is that important in this context. This simply means each process is very similar, with the American six steps being reduced to NATO's four, but those four steps still cover the same activities. The biggest difference is the NATO handbook focuses on operation assessment methodology and best practices without detailing exact staff responsibilities. In comparison, the US doctrine has the specific inputs and outputs each staff section is responsible for at each step, which may not apply to a Canadian or NATO staff.

The first key conclusion to take from this doctrine comparison is that the US Army doctrine has useful concepts on informal and formal assessment, with operation assessment

⁴⁰ Headquarters, Department of the Army, *FM 5-0 Planning and Orders Production*, 8–2.

⁴¹ Headquarters, Department of the Army, *ADP 5-0 The Operations Process*, 5–4.

⁴² Headquarters, Department of the Army, *FM 5-0 Planning and Orders Production*, 8–1.

⁴³ Headquarters, Department of the Army, 5–1; CFEC Joint Doctrine Branch, *CFJP 5-0 The Canadian Forces Operational Planning Process (OPP)*, 4–1.

⁴⁴ Air Land Sea Application Center, *MTTPs for Operation Assessment*, 9–24.

⁴⁵ NATO, "NATO Operations Assessment Handbook," app. G.

being a type of formal assessment. These concepts can be useful at tactical echelons in the army from battalions up to divisions, and the Canadian Army could use that model to make explicit processes for formal assessments in its doctrine. Second, the US operation assessment process can be easily overlaid on the OPP, but the details of staff responsibilities at each step would need to be “Canadianized” to reflect CAF staff organization. The third conclusion is that the NATO doctrine on operational assessment appears to be the best single reference for an operation assessment cell, due to its design as part of the only formal operation assessment course available in NATO countries.⁴⁶

How Can We Improve?

There are several things the CAF can do to start addressing its operation assessment problem. First, the CAF can develop and publish a comprehensive assessment doctrine. Second, it can streamline data collection and reporting within the CAF, leveraging information technology and improved bureaucratic procedures. Third, the CAF can deliberately allocate more resources to generating and maintaining an assessment capability. Finally, building on the previous three things, the CAF can influence its culture through the education and incentivizing of its leadership to embrace a culture which integrates formal assessment into operations.

The first step to moving forward on operation assessment is the integration of operation assessment explicitly into CAF doctrine. “Doctrine is the fundamental principles and practices by which military forces guide their actions in support of objectives. The role of doctrine is to impart knowledge and provide authoritative guidance for the organization of armed forces and the conduct of operations as part of the military art.”⁴⁷ For CAF to generate the capacity to conduct operation assessment, the requirement for operation assessment and how it is integrated into the operations and planning process must be captured in the doctrine. The simplest place to start is integrating operation assessment planning into the OPP. As mentioned, the US Army has comprehensively integrated formal assessments into its planning process, tying it into each planning stage. Using the US Army model as a guideline, the CAF could easily update the OPP to integrate the concepts of formal assessments and operation assessment from the US and NATO doctrine. This is important not just for use at operational level headquarters, but also because the OPP is taught to CAF officers on staff and leadership courses such as the Army Operations Course (AOC) and Joint Command and Staff Program (JCSP).⁴⁸ Integrating formal assessments and operation assessments into OPP will result in the Captains and Majors in the CAF contributing to and planning operation assessment being far more educated on the topic than they are currently. To reinforce the integration of operation assessment, the Canadian Army should incorporate the concept of informal and formal assessments into its doctrine. This would

⁴⁶ MacLeod and Banko, “A Canadian Perspective on Military Assessments,” 29.

⁴⁷ NATO Standardization Office, “AAP-06 NATO Glossary of Terms and Definitions,” 44; Army Doctrine Centre, *COMMAND: The Operational Function*, 7.

⁴⁸ Canadian Army, “Draft AOC QSTP”; Canadian Forces College, “Joint Command and Staff Program Syllabus.”

be separate from the concept of operation assessment but would develop the habit of deliberate assessment in general for army leaders at all levels, which would then feed into more effective CAF operation assessment processes.⁴⁹

With formal assessment and operation assessment integrated into CAF doctrine, the next subject is streamlining existing processes. Streamlining data collection and reporting techniques across the CAF will first reduce the amount of time and effort expended by CAF members on collecting and reporting metrics. Two approaches to this streamlining should be complementary and enacted simultaneously. The first, technology agnostic approach is making the existing bureaucratic reporting processes more streamlined and efficient by reducing the number of metrics collected for any assessment. This addresses concerns raised by Dr Downes-Martin in 2011 regarding the overwhelming number of metrics required to be collected, and again by the DRDC team that presented to JCSP in 2024.⁵⁰ The DRDC presentation highlighted an example illustrating bloat. CJOC is currently collecting over 25 metrics to assess the effectiveness of Operation CROCODILE. The CAF has only nine people deployed on Op CROCODILE, and most of the indicators were redundant or heavily overlapping according to the OR&A experts presenting.⁵¹ The way to accomplish a reduction in metrics to those that matter boils down to education and training. Experts in assessment, an OR&A team for example, need to be brought into CAF headquarters episodically to continue to review CAF operation assessment, and to educate the staff and leadership on assessment design emphasizing “measuring what matters”. That leads to the topic of formally training CAF staff officers on operation assessment. Part of that was addressed in the previous paragraph on doctrine development, but it must be emphasized that staff officers expected to design assessment plans need formal training. This formal training, such as that provided by NATO, specifically addresses the tension between minimizing the number of metrics that need to be collected and the amount of data required to make a useful assessment.⁵²

The second approach to streamlining metric collection is the technological approach. With the increased digitization and networking of CAF information systems, the burden on individual soldiers and employees for data collection and entry is expected to be reduced.⁵³ There are two parts to this burden reduction, the first is the increased access to shared databases across the CAF, reducing redundant data collecting and reporting, thus reducing overall

⁴⁹ A warning: integrating operation assessment doctrine is not a silver bullet. This doctrine has not automatically translated into effective operation assessment in the US military experience. This paper references four articles or reports on how to fix the broken assessment process. However, none of those experts argue against a formal assessment process or its inclusion in doctrine. They recommend updates to doctrine, keeping doctrine and the process adaptive, and best practices regarding operation assessment. Integrating operation assessment into Canadian doctrine is the first step and it must be regularly reviewed, or assessed for effectiveness.

⁵⁰ Downes-Martin, “Operations Assessment in Afghanistan Is Broken—What Is to Be Done?,” 6–7; Banko, MacLeod, and Donohue, “Operations Assessment: Measuring What Matters.”

⁵¹ Banko, MacLeod, and Donohue, “Operations Assessment: Measuring What Matters.”

⁵² NATO, “NATO Operations Assessment Handbook,” 2–2.

⁵³ Canadian Armed Forces, “Canadian Armed Forces Digital Campaign Plan,” 13.

workload. For example, instead of a staff officer sending three different reports to three staff sections on metrics that heavily overlap, the staff officer simply ensures the data is entered into the database, and the three other sections can pull the needed data. The second part of the burden reduction refers to the operation assessment cell. When working with data from properly designed databases, an assessment team can use all manner of digital tools to streamline their workflow, thus increasing the capacity without increasing actual time spent working. This desired outcome drives the inclusion of machine learning and artificial intelligence as key enablers in the PFEC.⁵⁴ Strategic level leadership in the CAF recognizes not just the global competitive advantage digitization enables, but also the simple utility to those tasked with metrics collection and operation or campaign assessment. When the technological aspect is combined with broad education on assessments and formal training of staff officers, the effectiveness of CAF operation assessment will drastically improve.

The next subject is the allocation of resources to operation assessment. In this discussion, resources refer to personnel, time, and money. The first step in ensuring personnel are allocated to a capability within a bureaucracy is to create formal, full-time positions for that capability, and personnel filling those positions should conduct operation assessment as their primary duty. The current employment model currently being reported from CJOC does not have the requisite number of full time positions assigned to operation assessment.⁵⁵ The obstacles encountered in creating permanent positions and filling them with qualified personnel are the limited number of positions the CAF is allowed to have and then generating the number of trained people to fill the positions. The CAF has a fixed number of total positions authorized by the Canadian government creating a zero-sum equation when growing new capabilities. That is to say, for each position the CAF creates, they must remove another position performing a different, but still pertinent function. This means the creation of any new position will require competition, and in a competition, one requires strong arguments to win. With the publishing of PFEC and the assumed integration of formal assessment doctrine into the CAF, there will be increasing fuel to rationalize creating permanent, full time operation assessment positions at operational headquarters. Additionally, there will be increasing pressure on operational headquarters that have permanent assessment cells, to ensure their respective assessment cells are employed appropriately. The second obstacle is the generation of trained personnel to fill those positions. As mentioned earlier, the current availability of military courses on operational assessment is insufficient to fill the current requirements of CJOC, let alone other headquarters. This would be mitigated by incorporating formal assessment education and training into CAF staff and leadership courses, as staff officers would be much more familiar with operation assessment best practices than they are currently and would likely leverage the few formally trained experts effectively. However, Canada should develop its own operation assessment training program. Though the DRDC report identifies some risk in standardizing training through doctrine, it cedes

⁵⁴ Canadian Armed Forces, "Pan-Domain Force Employment Concept," 25.

⁵⁵ O' Neil, "Operational Assessment Email.Msg," April 23, 2024.

that formal training is necessary for military members, further supported by US recommendations.⁵⁶ This paper recommends creating an operation assessment program or series of courses open to both CAF members and Canadian civil servants, drawing on the expertise of OR&A professionals working for DND. The intent is to formally train personnel forecasted to enter operation assessment positions.

The next obstacle to clear is the cultural resistance to assessment-related activities as earlier identified. The first aspect was the overworking of CAF members in general. In the context of assessments, this referred to requiring the collection and reporting of too many indicators and metrics. The second aspect was the staff and leadership of the CAF's perceived lack of value provided by operation assessment. The approach to clearing this obstacle is aligned with the CAF approach to culture change in general: change leadership behaviours.⁵⁷ Assuming leaders in the CAF influence the behaviour and beliefs of their teams, the CAF must change the behaviour and beliefs of leaders regarding operation assessments. The first step is education, building upon what was mentioned in previous paragraphs. If leaders better understand effective formal assessment processes and the trade-offs present in metric collection, the sheer amount of collection effort will be mitigated. This reduces the amount of work tied to operational assessment. Another aspect of education is increasing the data literacy of leaders in the CAF. Data-literate commanders will have a positive impact on assessment reporting. The generally accepted definition of data literacy includes the ability to read, work with, analyze and argue with data.⁵⁸ If the operation assessment team is briefing a data-literate commander it will increase the effectiveness operation assessment reporting. To paraphrase the OR&A presentation, this will enable the reporting to move away from "stop light charts", percentages, or pie charts that oversimplify and over-aggregate data, which adds to staff work and does not actually present useful information to the commander.⁵⁹ To summarize the approach to the assessment culture, the integration of assessment doctrine combined with increasing formal education and training on operation assessment targeting CAF staff and leadership will drive the required changes in the behavior of leadership, thus influencing the culture overall.

Conclusion

The CAF needs to effectively assess operations to be effective in the modern, increasingly complex, pan-domain battle space. The PFEC directed this under the concept of campaign assessment. In addition to simply doing as directed, operation assessment improves the effectiveness of military planning and decision-making in a complex environment. The current operation assessment process and the CAF's ability to generate the resources to conduct

⁵⁶ MacLeod and Banko, "A Canadian Perspective on Military Assessments," 29; Schroden, "Why Operations Assessments Fail—It's Not Just the Metrics," 7.

⁵⁷ Chief Military Personnel, "CAF Culture Change in 2021: "Getting to Where We Need to Be," 13.

⁵⁸ D'Ignazio and Bhargava, "Approaches to Building Big Data Literacy," 2.

⁵⁹ Banko, MacLeod, and Donohue, "Operations Assessment: Measuring What Matters."

operation assessment are inadequate. This is due to poor integration of assessment processes in Canadian doctrine, the lack of formal military education and training on operation assessment, inefficient and overwhelmed data collection and reporting processes, and a culture of metric collection and reporting fatigue. This paper outlined ways to start addressing these issues and the following four are the most important. First, it identified doctrinal approaches useful in developing a Canadian doctrine for operation assessment, acknowledging that the current US and NATO operation assessment doctrine is still improving and asserting that the CAF needs a baseline to start from. Second, it identified areas for improvement in streamlining collection and reporting processes, leveraging the ongoing digitization of systems to reduce the collection burden on CAF members, while increasing the analytical capacity available to operation assessment teams. Third, it identified how to incentivize and rationalize allocation of resources to support the creation of enduring operation assessment teams in CAF headquarters and formally train the personnel required for effective operation assessment. Lastly, the paper looked at the impact on CAF culture of improving the data literacy of leaders and educating them on formal assessment concepts starting early in their careers. When taken together, these four concepts would greatly increase the CAF's ability to conduct operation assessments, improving the CAF's ability to campaign effectively, thus enabling CAF to remain competitive in the modern, complex battlespace.

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