

Learning in the General Staff

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"Learning" as a Controversial Term

What makes an intuitive term so complex?

The idea of "learning" has been associated with mankind since the dawn of recorded time. The first institutional identity taken in today's world is that of a student, or one who learns. We all remember being asked to learn, being too lazy to do so, yet using the familiar excuse for doing nothing, "I'm studying!"

Then why is such a common term so controversial?

"How is it controversial?" you might ask. Allow me to answer with an episode I experienced several years ago. While I commanded the Training and Doctrine Division in the Operations Directorate (GS/J3), I initiated a symposium on the subject of planning in the General Staff. I thought it worthwhile to deal with this subject as I sensed the Chief of the General Staff's impatience and dissatisfaction stemming from the way it was being carried out. One of the lecturers I invited, after seeing the symposium's goals, responded that he would be happy to participate, but was very concerned that we were reintroducing confusing, unprofessional and post-modern terminology that has "already caused damage to the IDF in 2006." He directed my attention to the word "learning" that appeared in the symposium's goals: "Learning about the General Staff's planning process." In other words, the very use of the word "learning" evoked negative connotations for this respectable lecturer.

Another example of the term's inherent complexity was an attempt to implement a tool called *The General Staff's Learning Graph*, which included the General Staff's learning events. When I presented the graph to the General Staff, I was surprised that it stirred up an argument, and that the graph received criticism. The main objection was, "How could such a complex subject, such as learning, be taken and plotted on a technical aid like a graph?" Another objection was, "This isn't learning. What is presented here is General Staff activity." Even though it was activity focused on learning, this was not the way the General Staff learned.

Another encounter I had with the complexity of the term was when I defined "learning" as the central function of Training and Doctrine Division. When I began my position as the commander of the division, I tried to better define its main function - What does the Training and Doctrine Division actually deal with? What is considered success? What is failure? What connects all of the division's various elements?

My conclusion was that the main process in the division was to promote learning in the IDF's main headquarters, and this required me to define the term "learning". After reviewing several examples, I found the behaviorist approach as the most appropriate for the military: "Methodical change in execution capabilities that takes place following the acquisition of new knowledge."² I liked this definition because of its practical aspect - behavioral change.

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² Operations Branch/Doctrine and Training Division, **The Military Training Concept**, July 2015, unclassified. Page 8 (Hebrew).

Another reason was the understanding that change is caused by acquiring new knowledge through deeper comprehension and research. I was again surprised to find so much opposition to the definition. Some resisted because in their mind behavioral change received too much emphasis, which to them is less important than the change in situational awareness. Others claimed that my definition addressed aspects that were physical and technical in nature, and not fundamental.

In this paper, I will discuss the term "learning". I will present a short review of its development in the IDF and I will present a personal experience of the learning process and my conclusions from it.

Why is "learning" so hard to define and address? I propose two approaches for a solution:

The first is a general epistemological approach, while the second is more local and related to the evolution of the term in the IDF over the last several decades.

I will not go into details concerning the first approach, but I will say that there are basic terms in human behavior that have been widely interpreted, such as love, strategy, anger, thought, etc. These terms, that interpret human behavior, have been given different meanings over the years in a variety of languages. The more the research of these words and terms develops, human knowledge in this field becomes more sophisticated.

This is what happened with the term "learning". To illustrate my point, imagine an academic institution that deals with the training of teachers. Every year hundreds of students will be asked to define the term "learning". They will research study methods and try to understand how the human brain operates. This institution will contribute a multitude of definitions, innovative approaches, criticisms of contemporary thought, and more. Western societies' pre-occupation with the massive enterprise called formal education explains the ever-increasing complexity of the field.

The second approach is much more relevant to our discussion, and to better understand it, we will review the main stages that shaped it in the IDF.

Four Stages in the Genealogy of "Learning" in the IDF

The First Stage: 1947 to 1967 – The IDF Learns from Foreign Militaries

In 1948, with the founding of the IDF's General Staff, *Mahad*— the IDF's Instruction Department — was also founded (eventually it would become *Ahad*, the Instruction Branch). The department's objective was to train IDF conscripts in military professions. The greatest challenges were the training of conscripts, many of them new immigrants, during ongoing combat and the rapidly increasing size of the military during the War of Independence. These two challenges necessitated the establishment of an institutionalized training system that provided the basic skills required for combat. The training mainly dealt with handling personal weapons and integration into a squad and platoon. Officer training was minimal at best, and based mainly on the *Hagana's* platoon commanders course.

The major change began with the third "seminar" held by the former Prime Minister, David Ben-Gurion, in 1953, who had taken leave from political life to learn in depth about Israel's national security issues. Ben-Gurion interviewed experts, visited various institutions and read reports. In an inspirational act of personal learning and out of deep appreciation for the veterans of the Jewish Brigade, Ben-Gurion shaped Israel's security concept. The 1953 seminar still serves as a quintessential example of a leader's learning.

One of Ben-Gurion's fundamental insights was that the military is a profession that needs to be learned and one of his central conclusions was the importance of the formal training of officers. The training included a combination of courses, the establishment of the National Defense College, the founding of pre-military high-schools for teenagers, and sending officers to study in other military institutions abroad.

Over the years, officers' training has undergone improvements, among them the recognition of some of the content as academic, the establishment of new training courses, and more. But the paradigm continues to exist to this day.

The Second Stage: 1967 to 2006 – The IDF Gains Confidence and Learns from Itself

This stage is the most important for our discussion. During this stage, the world became enchanted with the IDF. Delegations from Western militaries were eager to learn from the IDF's experience in the Six-Day and Yom Kippur Wars. IDF doctrine, on which the officers had been nurtured since they were new recruits, was thrown by the wayside and replaced with complex procedures of staff work. The armor-centric concept of mass dominated the lessons-learned process following the Yom Kippur War. The IDF rebuilt itself to win a second Yom Kippur War. Even after the disappointment of The First Lebanon War, Israeli voices warning that the IDF was facing a serious problem were few and far between (although one of these voices was heard in the Wald Report³).

This development should be viewed in the context of a revolution that had started at the beginning of the 1980s in the United States and was causing havoc in the world of strategic thought - the Revolution in Military Affairs (RMA). Today it is widely accepted that the Yom Kippur War was one of the catalysts of this awakening. The conclusion of Western militaries from this war was that the doctrine of armored masses was not effective. It was proven that even with the optimal conditions of complete surprise and advantage, it was not possible to decisively defeat the enemy. The war's mutual battles of attrition, along with new technological developments, resulted in the rise of new doctrine. This concept sought to reduce direct attrition through the prudent use of precise fires, better intelligence and improved command and control systems. The IDF was also quite affected by this new concept, and it was expressed in the evolution of an original and advanced IDF version of this revolution.

To summarize: This period featured two processes within the Israeli strategic establishment – flawed learning of the lessons from the Yom Kippur War, while neglecting universal doctrine, on one hand; and the implementation of the concept of precise fire strikes, on the other. These two processes were not congruent and they lacked mutual coherency. Non-complementary tension began to build between adherents of fires and those of maneuver. This tension, which still exists in the IDF, has been one of the main inhibitors of learning in the IDF. This impasse remained in place until 1988 when it was broken with a conceptual-instructional development that appears to solve the contradiction and confusion: the establishment of the *Barak* Command and Staff Course.

Barak introduced two new ideas. The first was the return to the old IDF doctrine from the early 1960s, and the second was the introduction of a developing field at the time, operational doctrine, to the program's syllabus. Doctrine experts, such as Benjamin Amidror, and operational theorists, such as BG (res.) Shimon Naveh, came together for this common goal. The addition of operational doctrine into institutional learning

³ Wald, Emanuel, **The Curse of the Broken Tools: The Decline of Israel's Military and Political Power (1967-1982)**, (Schocken: Tel Aviv, 1987) (Hebrew).

and its connection to universal doctrine created an affiliation that, at the time, seemed completely natural (as opposed to the way it is perceived today).

This enabled the practical application of the concept: on one hand, deep battle doctrine that includes intelligence, fires deep in enemy territory, and armored ground maneuver; and on the other hand, the use of general system theory to organize and design this kind of operation.

The implementation of this concept requires learning. In order to design an operation that allows for the manifestation of all the new concept's capabilities, the military leader needs better situational awareness. This process necessitates familiarity in various disciplines, such as cybernetics, general system theory, philosophy and military history. In a later stage, a more thorough approach was developed in the IDF Institute for Operational Doctrine Research (*MALTAM*).

Slowly, *MALTAM*'s theories and concepts pervaded throughout the IDF. They were officially adopted by the Chief of the General Staff and the entire chain of command, where they were considered a sign of excellence and being on the cutting edge. At its peak of success, this concept became a significant element

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in the IDF's official operational doctrine. Those who knew how to speak the correct language were perceived as more professional. However, some of those speaking, and some of the ideas concerning *MALTAM*'s doctrine were subject to shallow interpretation and unprofessional implementation. The most notorious was the subject of terminology and definitions. Ambiguous terms, overloaded with imagination and inspiration, were invented widely by commanding officers and misunderstood by the troops.

The reason for this lies in the correct idea that situational awareness is expressed through words and interpreted terms, and when the understanding of the situation deepens, it needs its own new formal terminology. Of course, the invention of a new term itself is not learning; at times the phenomenon was manifested as clever and hollow expressions that were nothing more than a misrepresentation of deeper understanding.

Since, according to this concept, the most important thing is understanding reality and arranging an organizing theory for the campaign, this process would be expected to change reality. The entire process was described in various terms that included the word "learning" - "learning system", "evolving learning", "learning organization" and "continuous learning." Right at the peak of this concept's dominance and its dissemination, along with the term "learning" that accompanied it, it shattered in an instant in the Second Lebanon War (2006).

The Third Stage: 2006 to 2012 - The Great Crisis and the Loss of Self-Confidence

The Second Lebanon War ended with a sense of crisis in the military. The battlefield achievements were unsatisfactory and disappointing. The IDF, which only three years earlier had succeeded in defeating a campaign of Palestinian terrorism, was unable to accomplish the missions it was given. One of the most prominent commanding officers in the war, an unwavering supporter of operational art, an officer with a developed imagination and rich oratory skills, often invented terms to describe reality and what his forces

needed to achieve. The terms were widely quoted after the war as an example of the IDF's loss of professional direction.

Following the war, the incoming Chief of the General Staff, LTG Gabi Ashkenazi, began the process of rehabilitating the military. The process included going back to basics, canceling the operational concept, eliminating any mention of operational art in the IDF and placing extra emphasis on the use of terms taken from the tactical world of combat doctrine.

This rehabilitation process, which was justified and necessary for the time, restored self-confidence in the IDF and created stability and clarity between the various command echelons. But it also caused collateral damage. The need to return to tactical discourse reduced and restricted learning to extremely technical learning on the operational level. This type of limited learning abstained from using learning processes like the need for situational awareness to better create the right strategy, the importance of defining a system in order to implement the campaign's operational concept. The structured process of critical thought - designing a dialectic process of "playing the devil's advocate", shaking up the process (brainstorming) and then organizing it - were all pushed out of professional military discourse.

This is how an innocent term that evokes childhood became a contentious term suffused with the odor of post-modernism. This is a term that addresses the acute tensions in military thinking at the operational-strategic echelon: Tensions between the need for simplicity and the complexity of strategic reality; the tension between simple language and the need to describe a unique reality and its unique context; the tension between brainstorming and critical thought, and order, organization and discipline of the processes. The term began to be used to discern between two populations of officers- the conservative and the revolutionary. This segregation, which is not a necessity, could result in the disappearance of military knowledge, research and curiosity.

The Fourth Stage: 2012 and Onwards

The stage we are currently experiencing is an attempt to return the theoretical principles of operational art in a supervised, controlled and more practical manner. Since we are in the midst of the process, history will judge the quality of this decision and its implications.

The New Fires Concept - An Anatomy of the Learning Process

The building of the new fires concept was a process of learning and planning that concerns force design in the IDF. The process was led by the Doctrine and Training Division from 2013 until the end of 2015. I will begin by saying that the presentation of the subject as a learning process is done in hindsight. The process had two stages: The first, prior to Operation Protective Edge in the summer of 2014, was an attempt to carry out cross-service staff work led by the Operations Directorate (as opposed to staff work within a service). The second stage, following Operation Protective Edge, was different - it was more fruitful, significant and led by the Doctrine and Training Division.

Before continuing, it is best to define two basic terms: strategy and strategic planning; both are important when dealing with the General Staff.

Strategy

Strategy can generally be defined as the continuous modification of means to achieve long-term objectives. The complexity of the strategic environment lies in the fact that the objective needs to be defined. It is not

provided by the higher echelon in a simple and technical manner. Therefore, a process of creating critical awareness of the situation within its context is required. In a strategic environment, solutions that were prepared in advance without making the required modifications should not be used, since every event is unique. The broad context of events is more important than discrete facts, and a long time is required to reach the achievement and understand the results. Another complexity of the strategic environment, the most important distinction, is the reality of continuous and constant change. Strategists are situated in a process of change: at any given moment, they make decisions based on facts and their interpretation, which come from the past, whether the distant past or recent past. The military leader is in a constant gap between reality and reality as he grasps it. The understanding of this gap and effective performance within it is strategy.

Strategic Planning (currently called "Design" in the Doctrine and Training Division)

The IDF's General Staff is the supreme headquarters, and as such, it is expected to deal with, among other things, strategic planning. This kind of planning is different from the technical planning process that characterizes the tactical level. The difference and the complexity stem from the traits of the strategic level, such as:

- Complexity: Systems in the strategic environment are complex with no borders. Their affiliations and context are difficult to discern quickly and to fully understand its complexity.
- Time lag: The effect of decisions in the strategic environment may become evident after a long period of time, and the recognition of change also takes time. On the other hand, indications from the tactical environment are immediate and quickly reach decision makers. This phenomenon of delayed understanding of the important strategic evolution compared to the availability of tactical data, could cause the discussion to become tactical in nature addressing the urgent matters that reached the headquarters, and not those that are most important.
- Unique context: Since the strategic environment is complex with extremely large dimensions, and due to the time lag, it is difficult and dangerous to discern patterns in this environment. In the tactical environment, the application of pre-prepared procedures to tactical developments is the right thing to do. In the strategic environment, attempting to use pre-prepared procedures will make planning difficult and ultimately cause it to fail. Therefore, it is recommended to see every event as discrete (even if from a historical-philosophical perspective this is empirically incorrect).

Strategic planning is a process that brings a strategic concept to realization by a process that is not procedurally regimented; however, its execution is carried out through a technical procedure. Moreover, the process of presenting reality in a strategic environment is not a process of composing an ordinary tactical situational picture. Situational assessment, while ostensibly tactical, forces military leaders to face an unfair test in the strategic environment. They are required to make strategic decisions with tactical tools. In this case, military leaders may abandon their staff since they have reached the conclusion assistance is not being provided. He reverts to relying only on himself (intuition), and sometimes will consult with groups of officers he trusts (who may not be staff officers). The phenomenon of commanders disregarding their staffs is mainly seen on the working levels in the General Staff (colonels). Their sense is that the Chief of the General Staff does not need them. They work hard to process data for the situational awareness

picture, but the Chief of the General Staff is not interested and carries out parallel processes that exclude them.

The peak of frustration revolves around *The Chief of the General Staff's Thinking Forum*, where this phenomenon routinely repeats itself. The reason stems from copying the procedure of the situation assessment from the tactical environment and implementing it, without making the required modifications, to the strategic environment.

Only recently, on the backdrop of knowledge development in the Brigadier Generals course, have we begun to understand the process of preliminary design for planning. We require a process of discourse, contemplation, debate, raising ideas and debunking them, introducing reference material from a different context into the discussion, and using a range of research methods. Most importantly, we need a process of external observation and an understanding of the process we are performing, a sort of awareness of the thought process we are executing (thinking about thinking).

The New Concept – “We Only Need to Change a Few Things”

The revision of the General Staff's fires concept was initiated by MG Yoav Har-Even, who was the Head of the Operations Directorate at the time. Har-Even understood that after more than a decade the concept needed to be readdressed. The previous concept, developed in the 1980s and finalized in 1994, was truly revolutionary and directed force design towards components that were technological breakthroughs at the time.

The concept was meant to stop and destroy regular Arab militaries, which were laden with heavy armored platforms. However it lost all relevance following the collapse of the state militaries in Syria and Iraq. Moreover, since the 1980s, intelligence gathering systems based on computerized signal processing had developed and matured, and precision guided systems underwent significant technological advances, but the most significant advance was seen in the field of command and control systems.

The requirement for a new concept was clear, and following the employment of fires in Operation Pillar of Defense, it became obvious that in practice we were applying a new and different concept of fires. This new concept could be summarized by the three major changes: Firstly, the targets were much more difficult to attack; secondly, most of the intelligence came from the General Staff level, and was not based on collection by the tactical echelons, as in the previous concept; and finally, most of the attacks were carried out by the Air Force, as opposed to being based on precision-guided systems that were organic to the maneuvering echelons.

It became clear that in practice, we were applying a new concept that had yet to be written or formalized. As a result, our force design lacked an updated organizing concept. That said, there was a relatively large number of new concepts in the IDF services and directorates - the Intelligence Branch developed the concept of intelligence-based combat; the Air Force developed a concept whose guiding principle was to significantly increase the output of aerial attacks; the J6/C4I & Cyber Defense Directorate developed a concept that addressed a common digital medium for the IDF (the networked IDF), and more. However, the development of each of these concepts was led by, or done entirely within, a single service.

The first meeting I held on the subject was surprising. The scale of the gaps that surfaced during the debate was immense. A summary of these gaps can be classified into three main areas:

- Technological gaps: During the process, a number of technologies were developed for intelligence gathering, for attack and for command and control. The systems were developed by the Intelligence and Air Force without any collaboration with the Ground Forces and without any unified connection coordinated with the Computer Service Directorate. The need to transfer information gathered for an attack required dozens of interfaces between computer systems. Every interface was improvised, and in many cases the target did not get from one system to another.
- Operational gaps: It was discovered that operational headquarters had developed their own internal language that was not common to everyone. A lack of trust was evident between the headquarters, so each one created its own internal process for attack planning. In the transfer of information between these headquarters, each translated what it received into its own language and professional standards.
- The professional gap in fires planning: It was discovered that battle procedures were not executed in the simple and familiar process of employing fires. It was evident that considerations of the continuity and intensity of the fires effort were significant factors in the process.

Time Out – Maybe This Runs Deeper Than Organizing and Organization

Considering the gaps that were identified, staff work could have been carried out as a process to solve these problems. Technical challenges in the transfer of data from one system to another, it could be solved by an interface between them. For problems in an operational process, a new procedure and new doctrine could be defined.

And if there is an issue with professionalism, no problem – we will teach them the doctrine.

The temptation to act in this manner was very appealing. A process like this is technical, bureaucratic and practical. It is the “plumbing” approach to the operational process, and like plumbing, we can immediately plug the leak and see results.

Another advantage is that it does not require our system or organization to undergo any major changes. The change is small, the process productive, and the achievement within reach. But the deeper we delve into the realm of fires, we discover that this is exactly what caused the problem that brought us to our current situation in the first place. This is the way we operated in the past, we solved a local problem but created a systemic one. For example, if there was a problem of intelligence collection in one specific area, we created a system that maximizes the collection capabilities for that area, but this system was not connected to any attack assets. There was a problem with an interface between computer systems, so we created another computer system to bridge the original systems. This is how all the local enhancements created a very complex system that contained a multitude of concepts, languages, approaches, and other operational lessons.

This all leads to a very clear conclusion. Details need to be looked at and carefully examined to create a new holistic General Staff concept for the employment of fires that will serve as a compass for all the other capabilities and technology being developed in the various services. The fires effort in this era is both an effort of connecting between different services, and a joint effort (every service takes part in its success on the condition that its actions are synchronized with the common goal). This is not jointness in the conventional meaning, which is an intelligent combination of various capabilities where employment of force takes care of the synergy between them. In order for the fires effort to succeed, a common and

permanent inter-service space must be established, in addition to a common General Staff force design concept.

After holding several meetings, we thought we had reached a good methodology for the staff work. We planned to present our basic ideas on the new process to the General Staff for the sole purpose of updating them and receiving their approval.

We were met with staunch opposition.

Most of the speakers were against the idea. Their main claim was the use of the term "project" emphasized how much we lacked relevance.⁴ It was clear to us that a different innovative concept was required and we were only improving the one that already existed. Additional criticism stemmed from the fact that the Doctrine and Training Division would be leading the development of an operational concept for headquarters employing forces, instead of it being led by the commanding officers themselves. To quote a senior officer on the General Staff, "This is not the way to learn. To let a staff-division commander create a concept for us is not learning by the General Staff. To change, we need to do it by ourselves, with the Chief of the General Staff personally in the lead." That is, there were two options - the service could lead learning for force design, or the Chief of the General Staff could lead it personally.

It was apparent that most of the generals on the General Staff objected to the idea that a General Staff division should lead the learning process. Nevertheless, the obsession of those very staff divisions with "staff work" was ineffective, and this is what created the frustration of many staff officers that was previously mentioned. I understood that the General Staff had no intention of carrying out this learning by itself, and I was left with the question: *How can the division create a learning process for the General Staff?* In the summary of the meeting, I was left with two conclusions. First, the name of the project needs to be changed; and second, this process cannot be ordinary staff work – meaning it could not only be a sequence of meetings with representatives from all General Staff branches (usually middle-ranked officers) and summations in a position paper.

I needed a dedicated learning group and a different process.

Developing the New Concept: Stage I - "Establishing Learning is a Continuous Process"

Structuring learning is a dialectic process of building knowledge based on the creation of premises, critical questioning, new understandings, synthesizing, testing by friction in the field (trials) and then starting all over again. The structuring of learning is not just reading materials or preliminary learning of background material, it is a continuous process.

We began the process of updating the concept the way most staff tasks are carried out in the IDF - preliminary learning, planning a schedule of meetings, and conclusion. However, we abandoned this model rather quickly and adopted another - mapping out the gaps and attempting to reach the root problem, and then researching this problem and the desired solution. Every time a deficient subject was deeply studied, additional issues arose that required learning before moving on, such as new weapon systems, new concepts that had been built in the major and regional headquarters, new command and control systems, and more.

⁴ The term "project" in the IDF often points to efforts that are not mainstream, operational or affiliated to force-building.

This process was in danger of diverging, as the more we progressed the more we became aware of subjects that needed to be studied, and the process dragged on and became more and more complex.

Preferring Experts Over Hierarchy

Ordinary staff work dealing with force design in the General Staff is a series of social meetings in which every branch sends a representative, who is usually junior. In practice, the person who decides who will participate is the head of the office that calls the meeting. On Wednesdays (IDF schedules are finalized on Thursday evenings for the following week) negotiations begin between generals' offices concerning who will attend the meeting. It is a battle over the rank of the participants, and not over the professional experience and expertise they bring to the table. When the compromises between the offices are over, a group of representatives arrives to the meeting, which more often than not does not contribute to the meeting and only obligates the body sending the representative to fulfill the decisions appearing in the meeting's conclusions (after all, they were part of the process). And this is not the way to carry out a learning process! No experts, no research, only representatives. Quantity instead of quality.

We decided to take a different route. A small and permanent group of experts was comprised, together with ad hoc representatives according to the need and the subject being discussed. The group of experts included very few people; their rank was unimportant, only their expertise. The group had a technology expert, a historian, a systems analyst, and Air Force, IT and fire-control officers.

The Creation of Subgroups – One Team or Subject-Based Teams

We divided the main team into three subgroups: new targets, pre-planned targets, and targets required to support maneuvering ground forces. Nevertheless, its biggest disadvantage of this division is the lack of cohesion of each sub-group to the entire sequence of the work and to one main idea. In the first stage of learning we received three different sets of recommendations that were not connected to one inclusive concept.

"This is not the way to carry out a learning process! No experts, no research, only representatives. Quantity instead of quality."

To sum up this point – Up until Protective Edge, our learning was disorganized. There were numerous ideas, many minor solutions and three sets of recommendations that were not connected to one inclusive concept. There was a lot of quantity with little quality. We only became fully conscious of these shortfalls following Protective Edge.

Developing the New Concept: Stage II – The Debriefing of Protective Edge – “We Are in a Drift”

The debriefing of Protective Edge was unique in two ways. The first was that it was carried out while the Operation itself was still ongoing. I received the task of investigating the fires effort from the commander of the Operations Directorate on the day the operation commenced. We all thought that this was “Operation Pillar of Defense⁵ II”, meaning an eight-day fires-based operation. The second was that it was carried out by those who bore responsibility during the Operation. All those involved in the debriefing were experts in their field and worked during the operation to improve processes.

Without going into specific details of the debriefing's results, I will present the non-classified relevant conclusions that led to the change and new concept.

⁵ Operation Pillar of Defense took place in 2012, and featured no ground incursion by Israel.

- 1) The large amount of resources invested by the IDF over recent years to improve the efficiency of fires led to a growing gap between efficiency and effectiveness. The leading index used by officers in the regional headquarters to assess the attack mechanism was its efficiency. It goes without saying that all of the targets met the strictest legal standards from the aspect of international law and there certainly was an operational need. Nevertheless, an “atmosphere of efficiency” was created and not necessarily effectiveness, from the most senior of commanders all the way down through the chain of command. The reason for this is complex and still classified.
- 2) Discrepancies in the understanding and concept of authority and responsibility between the regional commander and the air commander raised conflicts concerning operational considerations for the attack of targets, despite conventional definitions that state that the regional commander has the responsibility. The Air Force sees its mission in a broader sense, which makes it difficult to create a coherent concept for the employment of fires.
- 3) The inability to concentrate efforts in a specific sector due to the “equal distribution” of fires assets makes it difficult to create designated command and control structures to employ fires in a concentrated effort and under a mission-based command center (established specifically for fires) in a given sector. The choice to equally divide resources is often simpler, but the cost is a under-utilization and non-synchronization of attack assets in the same operational sector.

Developing the New Concept: Stage III - Changing the Approach

Focusing on Quality - The idea was to introduce quality considerations within command and control systems by making a quality process mandatory, or by creating a prioritization of targets. In other words, it does not suffice to talk about quality and build forces that create quantity. The introduction of quality at the basis of force design for fires will ensure that quantity does not overcome quality. Here are several examples:

- Building a mechanism for data mining within the computerized command and control systems that will provide the commanding officer a picture of the quality of the targets that have been attacked, and not just how many.
- Defining the importance of learning the enemy situation picture in depth, and not just a presentation of targets.
- Creating a system that will provide feedback of the operation's effectiveness.
- Changing the dominant command and control system so it will be obligated to carry out a correct analysis of the operational concept to support an effective fires plan (the system must follow a professional process to determine the stratagem, attack missions, objectives, targets for attack).

“Regionality” as a Main Approach - To better utilize resources, we must consider all fires and intelligence collection elements as regional in nature, and that they can be employed by all commanding officers in the field, depending on their mission. This will enable concentrated efforts on one hand, and flexibility on the other, in addition to efficient resource allocation. Together with this approach, there is also the subject-based approach.

There is complementary and contrasting tension between these two schools of thought, but when we want to direct design the force, we must decide which of the two is predominant. The conclusion from Operation Protective Edge was that the concept needed to be changed. In the past, the employment of fires entailed the allocation of organic attack assets to ground commanders, who became accustomed to these subordinated assets and considered them part of their order of battle. However, this concept, in the era of combat against an enemy in a dense civilian environment, is no longer feasible. It is too costly and inefficient. Due to advanced command and control systems and the operational Internet, it is possible to allow quality and organic integrity from regional fires and intelligence collection. A decision to expand organic force design will not enable regional employment. On the other hand, building regional capability will facilitate rapid and flexible fires employment on a broader basis. In Protective Edge, there was an attempt to execute an organic approach, but this severely hindered the concentration of efforts and its effectiveness.

"Only combat made us aware of the drift between where we are and where we should be."

Concerning the process of designing the new concept, this was the time when we changed our method of learning. No more series of meetings, just discussions with experts to address the issues that arose from the debriefing of Protective Edge, which allowed us to instill the operational lessons learned directly into the new concept. We were privileged to have access to a real-life combat laboratory, and we used it to validate the concept and the changes it entailed.

What We Learned from the Process about Learning in the General Staff

- 1) **A regional command or service can lead a more effective learning process than the General Staff** - The organization of the services and branches are more suited for these types of processes. These bodies deal with one main area of content, which enables the focus and convergence of the learning process. Together with the authority of organization's commander, this generally contributes to better processes. However, the General Staff is more complex. It is comprised of the very services and branches that carry out learning processes (as mentioned above). These processes will theoretically be hampered by the General Staff's learning. In order to create learning in the General Staff that involves the "staff," there needs to be a change - an organizational change, a change in the way we think about learning, discernment between ordinary staff work and a learning process, and the creation of a concept. The optimal situation is that the General Staff, led by the Chief of the General Staff, will lead learning processes and research, even though this desire is not feasible. Therefore, to facilitate General Staff learning processes, a designated, joint and quality body is required, comprised of representatives considered reputable by the branches and services, with access to the Chief of the General Staff.
- 2) **The Importance of Conceptual Trials and Criticism** – Were it not for Operation Protective Edge, we would still be in our previous state of mind and we would have probably created a poor concept. The process of composing concepts for our force design is not good. Only combat made us aware of the

drift between where we are and where we should be, and the natural conclusion is to create a process that will enable this kind of probe, even without combat.

In the past, the IDF established the Concepts Laboratory to do exactly this. But from this perspective, the Laboratory failed in its mission. While it did perform simulations, and even wrote papers with the word "concept" in their titles, their conclusions were never officially adopted. It is impossible to create a concept for force design and employment as part of relatively low-level staff-work tasks together with the work of the General Staff. These concepts need to be the product of an integral learning process in the General Staff, which is indeed a rare event.

We will usually prefer to solve a problem by creating a staff body that is responsible for that specific subject. Another body on the General Staff that carries out validation research of concepts is the Center for System Analysis in the Planning Branch. This center uses analytic tools for examining the effectiveness of weapon systems as part of a holistic concept, but it does not usually carry out critical analysis of a concept in its entirety. A surprising fact is that opposed to the products of the Concepts Laboratory, the products provided by the Center for System Analysis are well received and respected by the General Staff's strategic community. This is surprising because we would expect that theoretical research based on holistic concepts would be considered more credible than quantitative analytic research. It should be noted that the difference in the way these two research bodies are treated does not change the insignificant use of their products. Neither of them influence learning on the General Staff and the attitude towards their findings depends on predisposition of the military leader who uses them.

Summary and Conclusion

The General Staff needs to introduce systemic learning that will enable it to be an effective learning organization. In this era, more than ever, it will not suffice to copy foreign militaries or to make tactical adaptations. The fourth stage that we defined in the IDF's learning journey is still being shaped today.

Directing force design on the inter-service level by a body in the Operations Directorate is possible, but it is contrary to the way the IDF's institutional force design system is organized. Therefore, unique organization and unique methodology of learning is required.

In a military that claims to work jointly, inter-service learning as a preliminary process in the creation of a new concept is critical and strongly needed.

The critical analysis process of the concept is more important than composing the concept. There needs to be problematization with the new concept through friction, as Operation Protective Edge enabled. In the absence of an accepted institutionalized solution for this kind of comparison and examination, the learning group must do it by itself.

There is a need for research and learning groups in the Operations Directorate that will facilitate operational research and learning to direct force design. This group should be established through a designated joint body of senior officers that will be superior to the efforts of the individual services. This process will allow us to initiate the changes before they are forced upon us by a war or an organization outside the military. As I mentioned before, since the correct learning process in the General Staff resembles swimming against the current, any new process or reorganization will need to be strong enough to progress against these currents.

In summary, learning is change and leaving old beliefs and habits behind. Only a significant process will enable such a change. Only a process in which commanding officers are deeply emotionally and mentally involved will result in change. If a process like this does not take place on the inter-service level, and if there will be learning in every service that is isolated from the broader IDF context, then one service may change, but it will be uncoordinated with the changes taking place in other services or bodies. This will lead to chaos or will be rejected since it is not synchronized "with the machine." This is why learning in the General Staff is critical. Only learning that stems from the central hub between the services with a status that is senior to all the services will result in a more effective force design process.