CREATIVITY IN THE MILITARY ENVIRONMENT

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Abstract: Creativity in the military environment refers to the ability to find innovative solutions in contexts defined by strict rules, discipline and high pressure. Although the military is often seen as rigid, success in operations frequently depends on adaptability, critical thinking and unconventional approaches. Creativity supports the development of effective strategies, rapid problem-solving in the field and optimal use of resources. At the same time, it must be balanced with adherence to rules, hierarchy and safety, in order to ensure coherence of actions and mission success.
Keywords: creativity, military, innovative, solutions, development, strategies.

I. Introduction – Defining Creativity in the Military Context

Creativity constitutes one of the fundamental resources of human and organizational development, being associated with the capacity to identify innovative solutions to complex problems and to respond to highly uncertain challenges. The specialized literature highlights that "*without creativity, societal progress and adaptation to change would be impossible.*"[1] In psychological literature, the emphasis is placed on the cognitive process through which individuals manage to overcome conventional patterns of thinking. As early as 1950, J. P. Guilford emphasized that divergent thinking represents the foundation of creativity, being defined as "*the capacity to generate multiple solutions to a single problem.*"[2]

Creativity may also be defined as the ability to generate ideas, solutions and original approaches to address complex problems, within limited timeframes and often under resource constraints. In the military environment, creativity does not solely imply imagination, but above all practical applicability, specifically, the ability to identify innovative methods for achieving tactical, operational or strategic objectives.

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[1] J.P., Guilford. (1950). *Creativity,* available at https://www.scribd.com/document/-84958579/Guilford1950?, accessed on 09.09.2025.
[2] Idem.

Creativity in the Military Environment: Definitions, Strategies, and Implications for the Decision-Making Process

In the military sphere, the subject of creativity has long been approached with caution, given its orientation towards discipline, strict regulations and formal hierarchy. However, the contemporary security environment, characterized by hybrid warfare, asymmetric conflicts and rapid technological developments, demonstrates that doctrinal rigidity can become a disadvantage, whereas adaptability and innovation constitute decisive assets. As recent literature asserts, *"creativity is the force that transforms constraints into opportunities."* [3]

The importance of creativity in the military domain derives from several dimensions:

➢ operational – identifying rapid and effective solutions in unpredictable combat environments;
➢ strategic – anticipating geopolitical developments and adapting doctrines accordingly;
➢ organizational – developing human resources through innovative training and flexible leadership.
➢ technological – the integration of new discoveries (AI, drones, electronic warfare) into the defense architecture.

Thus, the notion that emerges is that the modern soldier can no longer remain merely an executor of pre-established rules, but must become a reflective and creative actor, capable of interpreting complex situations and proposing effective alternatives.

Moreover, the comparative analysis of recent conflicts confirms this necessity. Lessons derived from the war in Ukraine indicate that *"tactical innovations, the use of drones, and the rapid adaptation to new realities have decisively contributed to the survival and effectiveness of the armed forces."* [4] From this perspective, creativity becomes not only a cultural or psychological value, but also a strategic factor of security.

Individual Creativity versus Collective Creativity

In organizational environments, including the military, creativity is no longer solely the domain of the individual, but rather the outcome of collective interactions. The concept of *organizational creativity* suggests

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[3] T., Amabile. (1996). *Assessing the Work Environment for Creativity,* Vol. 39, Nr. 5, available at https://innovationnorth.ca/wp-content/uploads/2024/05/Amabile-et-al_1996_-AMJ.pdf?, accessed on 10.09.2025.
[4] L., Freedman. (2022). *Command: The Politics of Military Operations from Korea to Ukraine*, available at https://www.scielo.org.za/scielo.php?pid=S2224-002020230002-00009&script=sci_arttext&utm, accessed on 10.09.2025.

that innovation emerges when the environment fosters collaboration, the free exchange of ideas, and tolerance for risk[5].

Furthermore, research highlights the role of organizational culture and leadership in stimulating collective creativity. An excessively rigid culture inhibits innovative ideas, whereas a culture grounded in trust and openness encourages the emergence of original solutions[6].

The Military Dimension of Creativity

Applied in the military context, creativity acquires specific characteristics: * pragmatic orientation – solutions must be immediately applicable in the field; * strict constraints – limited resources, security regulations, and disciplinary rules; * strategic impact – a creative idea, if properly implemented, can alter the course of an operation.

As recent literature notes, "*in the military, creativity is not merely an optional skill, but a condition for survival and victory*."[7]

Therefore, the present study aims to analyze the role of creativity in the military environment, beginning with the definition of the concept, exploring the methods for stimulating it and examining its implications for the decision-making process, both in times of peace and in times of conflict.

II. Creativity in Organizations and in the Military
II.1. Organizational Creativity

Organizational creativity represents the capacity of an institution to generate and implement innovative ideas that lead to the improvement of internal processes, efficiency, and long-term performance. *"Organizations that succeed in creating a climate conducive to innovation are more likely to survive and to adapt to turbulent environments."*[8]

Within a rigid institutional framework, such as that of the military, creativity must be understood not as a deviation from rules, but rather as a means of applying rules in a flexible and intelligent manner. As Schein asserts, *"organizational culture can either encourage or inhibit creative processes."*[9]

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[5] R. W., Woodman, J. E., Sawyer & R. W., Griffin. (1993). *Toward a Theory of Organizational Creativity. Academy of Management Review*, 18(2), 293-321, available at https://www.researchgate.net/publication/234022043_Toward_a_Theory_of_Organizational_Creativity, accessed on 09.09.2025.
[6] Edgar Schein, „Organizational Culture and Leadership", San Francisco, 2010.
[7] NATO. (2020). *Lessons Learned Framework*, available at https://www.jallc.nato.int/-application/files/4416/5781/2017/JALLC_LL_Handbook_Update_-_4th_Edition_FINAL_-14072022.pdf., accessed on 10.09.2025.
[8] R. W., Woodman et. al., *op.cit.*
[9] Edgar Schein, *op. cit*.

II.2. Rigidity versus Flexibility in Military Institutions

Military institutions are traditionally perceived as being marked by strict discipline, rigid hierarchies and standardized procedures. These characteristics ensure cohesion and predictability in combat, but they can also limit the manifestation of creativity. Nevertheless, contemporary conflicts demonstrate that operational flexibility and adaptive capacity are becoming essential.

In this regard, creativity manifests itself through the adaptation of tactics to new operational environments (urban, cyber, hybrid), the unconventional use of available resources, and, not least, the generation of rapid solutions under conditions of extreme pressure.

II.3. Models of Creative Leadership

The specialized literature highlights that creative leadership constitutes an essential prerequisite for stimulating innovation within organizations. *"A creative leader is one who succeeds in combining strategic vision with the capacity to inspire and to support innovative ideas among subordinates."* [10]

In the military, this type of leadership is reflected in the openness to ideas originating from lower echelons, the promotion of experimentation within controlled limits and the cultivation of a climate of trust and encouragement of initiative.

Military history offers multiple examples of tactical and strategic innovations that altered the course of conflicts, through the use of camouflage and deception in the Second World War, the development of airborne operations as a form of strategic surprise, as well as the application of electronic warfare in modern conflicts.

A recent example is provided by Ukraine's rapid adaptation to the conditions of war, through the use of modified commercial drones for reconnaissance and attack missions, which confirmed that *"improvised yet ingenious solutions can have significant strategic effects."* [11]

III. Strategies and Methods for Stimulating Creativity in the Military

Structured Brainstorming

One of the most frequently employed methods for stimulating collective creativity is brainstorming, applied in military contexts in the form of rapid planning sessions. Unlike classical brainstorming, the military variant imposes procedural discipline, with limited time for idea generation, followed by swift selection and implementation. *"Brainstorming remains a*

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[10] T., Amabile, *op.cit.*

[11] L., Freedman, *op..cit.*

valuable tool for triggering divergent thinking and for generating multiple options in the face of a complex problem." [12]

Red Teaming

A method increasingly applied in defense organizations is *red teaming*, which involves adopting the adversary's perspective in order to test one's own vulnerabilities. In this way, creativity is stimulated through critical thinking and the exploration of alternative scenarios, thereby contributing to the improvement of operational plans. *"Assuming the role of the enemy represents an exercise in strategic imagination, revealing weaknesses that remain invisible from within."* [13]

Operational Design

Introduced in NATO doctrine, operational design is a creative method for understanding complex problems and developing innovative solutions. Unlike traditional planning, which follows linear steps, operational design emphasizes conceptualization, metaphors, analogies, and systems thinking. *"Operational design facilitates the transition from understanding to action, through an approach based on imagination and critical reasoning."* [14]

Innovative Military Training and Education

Contemporary military education aims to combine academic rigor with exercises in applied creativity. Modern programs include simulations, war games, "what if?" scenarios, as well as interdisciplinary courses (psychology, technology, strategic communication). *"A creatively educated officer will be able to interpret weak signals in the security environment and propose solutions before they evolve into crises."* [15]

Techniques Inspired by the Civilian Sector

The armed forces have also begun to adopt creativity methods originating from the civilian sector, such as *design thinking* - a user-centered approach to innovative solutions, *scenario planning* - the exploration of multiple possible future developments, and *military hackathons* - rapid innovation events where interdisciplinary teams propose technological or tactical solutions.

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[12] Inclusive Innovation. (2017). *Creative Problem Solving* (Barcelona), available at https://brdo.berkeley.edu/sites/default/files/cps_handbook.pdf?, accessed on 10.09.2025 (includes the history of the CPS (Creative Problem Solving) method, which starts with Osborn and Sidney Parnes and refers to Applied Imagination).
[13] US Army Tradoc (2015). *Red Team Handbook*, available at https://home.army.mil/-wood/application/files/6115/8222/0759/RedTeamHB.pdf, accessed on 10.09.2025.
[14] NATO, *op.cit.*
[15] Idem.

These methods reflect the idea that *"the transfer of best practices between the civilian and military spheres is essential for the development of organizational creativity."* [16]

IV. Creativity in the Military Decision-Making Process

Military decision-making is defined as an act of selecting among multiple options, carried out under the pressure of time and uncertainty, with the purpose of achieving an operational or strategic objective. In this context, the quality of the decision depends not only on the information available, but also on the leader's capacity to interpret and act swiftly. *"Under conditions of stress and danger, innovative solutions can make the difference between success and failure."* [17]

At the same time, creativity directly influences the speed of decision-making through the ability to identify unconventional alternatives. Creative leaders possess flexible thinking, which allows them to transcend classical patterns of analysis and to reduce reaction time. *"Cognitive flexibility is associated with shorter decision-making times in critical situations."* [18]

Furthermore, the domain of creativity enables the optimization of limited resources, an essential aspect in the military environment. Examples from recent conflicts demonstrate that creative solutions, ranging from the adaptation of civilian equipment for military use to the reconfiguration of logistics, enhance operational efficiency. *"Inventive use of existing resources reduces vulnerability and maximizes combat potential."* [19]

In a volatile security environment, adaptability becomes essential. Creativity supports this adaptability by stimulating alternative thinking and by enabling the rapid reformulation of initial plans. *"A creative leader does not view uncertainty as an obstacle, but as an opportunity for innovation."* [20]

Beyond its practical dimension, creativity also contributes to inspirational leadership. Commanders who harness creative ideas convey a message of confidence and motivation to their subordinates. *"Leaders who*

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[16] M., Boisot. (1998). *Knowledge Assets: Securing Competitive Advantage in the Information Economy*, available at https://www.academia.edu/24777860/knowledge_asset?, accessed on 10.09.2025.

[17] G., Klein. (1999). *Sources of Power: How People Make Decisions*, available at https://mitpress.mit.edu/9780262611466/sources-of-power/?, accessed on 08.09.2025.

[18] K., WEICK. (2001). *Making Sense of the Organization*, available at https://www.semanticscholar.org/paper/Making-Sense-of-the-Organization-Weick/90f4bbfae05399-f70f2313a3dcb8734b43e94ebc?, accessed on 10.09.2025.

[19] NATO, *op.cit.*

[20] T., Amabile, *op.cit.*

encourage the expression of innovative ideas increase team cohesion and operational effectiveness." [21]

V. Creativity in Times of Peace and Times of Conflict
V.1. Creativity in Times of Peace

In periods of stability, creativity manifests itself through innovative training and education, integrating modern methods of preparation such as simulations, war games and unconventional scenarios. In addition, research and technological development (design and testing of new capabilities such as FPV drones, artificial intelligence, and cyber defense systems) contribute to the domain of military creativity during peacetime.

Similarly, civil-military cooperation, through the transfer of know-how from the academic and economic spheres into the field of defense, represents an important element in building a creative plan for identifying solutions in the military environment. With regard to organizational management, it can lead to the optimization of internal processes through creative solutions of leadership and resource utilization. *"Periods of peace provide the ideal framework for experimentation, for testing innovative ideas, and for strengthening doctrine through creative adaptation."* [22]

V.2. Creativity in Times of Conflict

During conflicts, creativity acquires a critical dimension, often constituting the differentiating factor between survival and defeat. It manifests itself through: * adaptation of combat tactics, employing dispersion, mobility, and deception to reduce vulnerability; * use of non-military resources, such as transforming commercial drones into reconnaissance or attack instruments; * logistical improvisation, observed in maintaining supply flows through unconventional solutions; * strategic communication, creatively applied in messages of psychological and informational influence. *"In the conditions of modern warfare, improvisation and rapid adaptation become sources of strategic advantage."* [23]

The war in Ukraine has demonstrated that the efficiency of dispersion, the mobility of units, and the use of drones have increased the chances of survival and reduced vulnerability to precision strikes. Moreover, allied support has demonstrated the importance of international solidarity and the sharing of tactical innovations. *"Collective creativity, supported by partners' assistance, can offset imbalances in conventional force."* [24]

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[21] Edgar Schein, *op.cit.*
[22] M., Boisot, *op.cit.*
[23] L., Freedman, *op.cit.*
[24] NATO, *op.cit.*

Conclusions

• Creativity represents a fundamental element for the progress of any organization, but in the military environment it acquires a strategic dimension, as it can directly influence the outcome of operations. If in the past the armed forces were perceived as a space defined exclusively by discipline and conformity, today it has become evident that innovation and decisional flexibility are as important as tactical preparedness.

• The conceptual analysis has shown that creativity is both an individual and a collective process, conditioned by organizational culture and leadership. In the military context, it is manifested through the capacity to transform constraints into opportunities and to identify solutions applicable in the field.

• Strategies and methods for stimulating creativity, ranging from *brainstorming* and *red teaming* to *operational design* and *innovative training*, demonstrate that the creative process can be systematically cultivated within military organizations. These practices contribute to increasing the speed and efficiency of decision-making, while also strengthening operational resilience.

• Furthermore, the distinctions between peacetime and wartime contexts confirm that the role of creativity is adaptive: in peacetime, it supports technological innovation and civil-military cooperation, while in wartime, it becomes an instrument of survival and strategic advantage. Lessons drawn from recent conflicts, such as the war in Ukraine, show that improvisation and rapid adaptation have the potential to offset imbalances in conventional force.

• Military creativity must not be regarded as an exceptional act, but as an essential competence integrated into the training and organizational culture of the armed forces. In the era of hybrid conflicts and technological transformations, creativity becomes a force multiplier that can ensure both operational success and long-term national security.

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