HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

POSSIBILITIES OF USING DEBRIEFING TECHNOLOGY IN MILITARY TRAINING SYSTEM

Abdurahimova Dilfuzakhan Alievna
Professor of the University of Military Security and Defense of the Republic of Uzbekistan, Ph.D. (DSc)
Doi: https://doi.org/10.5281/zenodo.23600795

Abstract: The article examines the theoretical foundations and practical applications of educational debriefing in military higher education. Debriefing is defined as a structured reflection on actions and decisions following training or simulation, aimed at examining evidence, identifying reasons for performance gaps, and agreeing on improvements. Experiential learning, reflective practice, team learning, and After Action Review frameworks are compared. The article proposes an adapted six-stage instructional model, a 45-minute teaching scenario, facilitator prompts, and preliminary assessment criteria. Educational debriefing is explicitly distinguished from compulsory psychological debriefing after traumatic events. The proposed framework is theoretical and methodological and requires empirical validation.

Keywords: military education, debriefing, reflection, after-action review, simulation, facilitation, feedback, professional competence.

INTRODUCTION

One of the tasks facing modern military education is to develop in cadets the skills of independent thinking, teamwork, analysis of complex situations, responsible decision-making, and drawing correct conclusions from the causes of mistakes. It is difficult to solve these tasks only by conveying theoretical information or by repeating the exercise many times. The learning experience itself may not yet become knowledge; To influence future performance, a cadet must analyze the work they have carried out by comparing it against the intended goals, actual outcomes, and the underlying reasons.

From this perspective, "debriefing"—a purposeful, reflective discussion held after the completion of a specific training exercise, role-play, simulation, project, or team activity—is considered a promising technique in military pedagogy. During this process, an instructor or a trained facilitator guides cadets toward evidence-based conclusions by posing questions such as: "What was planned?", "What actually happened?", "Why did it happen that way?", and "What should we change in the future?" The "After Action Review" (AAR) approach, widely used in American military education, is also based on this logic [1; 2].

Debriefing should not be equated with a simple concluding conversation or one-sided criticism from a superior. In a traditional post-activity review, the instructor typically provides an assessment, while the cadet simply accepts the conclusions presented. In contrast, during a debriefing, participants justify their own actions, reconstruct events from various perspectives, distinguish between facts and assumptions, and collaboratively develop appropriate solutions. This process creates an educational environment for feedback and reasoned challenge while maintaining leadership and professional standards.

HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

The purpose of the article is to scientifically reveal the pedagogical nature of the debriefing technology in military education, to systematize the conditions of its application to educational activities, and to propose an author's methodical model that can be used for future officers. The scientific-theoretical tasks include delimiting the main concepts of debriefing, comparing the results of international studies, determining didactic functions for military education, and justifying evaluation criteria.

The article used methods of theoretical analysis, comparative generalization of scientific sources, pedagogical modeling, and methodical design of situational examples. The text does not represent the results of independent experiments; the presented training scenarios are recommendations developed for practical testing. Such a boundary is important to maintain the validity of scientific claims and to distinguish a theoretical proposition from a proven empirical result.

The Pedagogical Essence of the Concept of Debriefing

In a pedagogical sense, debriefing is a guided reflective process aimed at reconstructing a participant's practical experience, analyzing it, understanding the reasons behind specific actions, and translating these insights into future practice. Its core unit is not merely a list of errors, but rather a logical chain consisting of: "goal – observed action – result – cause – correction." Consequently, debriefing can be viewed simultaneously as an educational technology, a mechanism for formative assessment, and a method of professional discourse.

Theoretical and Methodological Foundations of Debriefing Technology

In D. Kolb's concept of experiential learning, knowledge is formed through a continuous cycle involving concrete experience, reflective observation, theoretical generalization, and active experimentation in new situations [3]. Within this educational cycle, debriefing facilitates reflection following a practical activity: the learner recalls the task performed, evaluates their actions, identifies a general principle, and develops a plan to apply it in subsequent exercises. This mechanism supports the flexible application of theoretical knowledge to specific situations.

D. Schön's concept of the "reflective practitioner" emphasizes that a professional should re-examine not only the outcomes but also the assumptions, values, and habits underlying their decisions [4]. In military education, such reflection is particularly significant in situations where information is incomplete; while a cadet's action might turn out to be a mistake, it would be unfair to draw educational conclusions without understanding what information was available to them at the moment the decision was made. Therefore, debriefing analyzes not only the action itself but also the thought process that led to it.

Examining the role of debriefing in simulation-based training, R. Fanning and D. Gaba describe it as a vital tool for making sense of the learning experience [5]. The "debriefing with good judgment" approach, developed by J. Rudolph and colleagues, proposes a balance between the instructor's objective observations and the cadet's own explanation of the reasoning behind their actions [6]. For instance, instead of saying, "You took the wrong action," one might ask, "The distribution of tasks was not clearly stated during the second phase; what criteria were you relying on at that moment?" A question of this nature both points to evidence and invites analysis.

The PEARLS approach, proposed by U. Eppich and A. Cheng, integrates participant self-assessment, guided discussion, and specific feedback [7]. Although this model was developed within the context of medical simulations, its general pedagogical principles can be carefully adapted to training scenarios in military education. The objective here is not to disregard the differences between the two fields, but

HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

rather to utilize universal educational elements—such as open-ended questioning, reliance on observation, and the development of a concrete corrective plan.

The effectiveness of debriefing is more than just a theoretical assumption.

In a 2013 meta-analysis synthesizing data from 46 samples and 2,136 participants, S. Tannenbaum and K. Cerasoli noted that a well-structured debriefing is associated with an average increase in performance of 20–25 percent [8]. A more extensive 2021 meta-analysis by N. Keiser and U. Arthur also demonstrates the positive impact of AARs (After-Action Reviews), while emphasizing that the outcomes depend on factors such as purpose, content, facilitation, and the methods used for assessment [9]. These figures cannot be taken as a guaranteed outcome for the military education system in Uzbekistan.

A 2025 study focusing on debriefing sessions during military wargaming exercises analyzed how participants collectively construct professional concepts through discussion [10]. This approach demonstrates that knowledge develops not only within the individual but also through collective dialogue and the comparison of arguments.

Didactic and psychological potential of debriefing in military education

The first opportunity lies in connecting theoretical knowledge with action. A trainee may learn a plan, algorithm, or rule, but it often remains unclear until the exercise concludes which specific aspects were applied correctly in a practical scenario. During the debriefing, observed actions are compared against established standards to determine why certain rules were—or were not—followed. This process helps the trainee understand the root causes of recurring errors and facilitates the transfer of knowledge to future training tasks.

The second opportunity involves illustrating the cognitive foundations of decision-making. In time-constrained situations, one group might receive critical information too late, while another might mistakenly conflate assumptions with facts. Through debriefing questions—such as "What information was available?", "What information was missing?", and "Why was this specific solution chosen?"—trainees strengthen their skills in situational assessment, prioritization, and justifying their choices.

The third opportunity concerns the development of team coordination and leadership. The clarity of roles and tasks among trainees, the effectiveness of information exchange, and the quality of feedback all directly influence the outcome of a given task. In a debrief, the focus is not on assigning personal "blame," but rather on analyzing the distribution of tasks, the sequence of communication, and the methods used to achieve common goals. This approach integrates professional responsibility with collective learning, ensuring that expressing independent thought is not seen as being in conflict with following leadership.

A fourth aspect concerns emotional self-regulation and a culture of reflection. Following an intensive training exercise, participants may experience a range of emotions, such as elation, anxiety, embarrassment, or dissatisfaction. During a brief "reaction phase," the facilitator creates an environment where these feelings can be acknowledged, before steering the discussion toward facts, underlying causes, and lessons learned. It is important to note that the purpose of a training debrief is neither to compel the disclosure of personal experiences nor to subject a participant to psychological evaluation in front of the group.

A fifth aspect involves refining formative assessment. If, by the end of a debrief, a trainee clearly documents which actions to maintain, what to change, and how those changes will be verified, the

HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

feedback evolves from a general observation into a measurable, goal-oriented outcome. For example, instead of a vague phrase like "improving communication," one might establish an agreement stating that "during the next group exercise, the person responsible for each task and the corresponding deadline will be verbally confirmed."

A sixth opportunity lies in the integration of digital tools. Timestamps from the exercise, simulator logs, checklists, or authorized video recordings can help reduce disputes that otherwise rely solely on memory. A 2024 systematic review indicated that while technology is used in various ways during the AAR (After-Action Review) process, its effectiveness depends on the specific stage of application and the intended objectives [11]. In military education, data security and the confidentiality of sensitive operational information must remain a top priority.

Thus, debriefing can foster competencies such as active knowledge acquisition, reflective thinking, decision-making, team communication, and the ability to self-correct one's performance. To realize these potential benefits, the training objectives, the facilitator's preparation, and the assessment tools must be well-aligned. Psychological and Pedagogical Conditions for Implementing Debriefing

Effective debriefing is organized, first and foremost, when the learning objective is clearly defined. For instance, if the objective of a training session is stated only in general terms—such as "developing leadership skills"—the discussion may become unfocused. Conversely, using observable criteria—such as "providing clear instructions when delegating tasks," "verifying information," or "making coordinated decisions within a set timeframe"—enables a discussion grounded in evidence.

A second condition is ensuring mutual respect and psychological safety. While discipline, the chain of command, and high standards are essential in military education, turning a debriefing session into a venue for belittling, sarcasm, or assigning blame in front of the group may cause cadets to conceal actual problems. The facilitator should listen to a diversity of perspectives, discourage subjective judgments that lack an evidentiary basis, and steer the conversation back toward the task at hand. Such an environment does not undermine discipline; rather, it contributes to the precision of professional conclusions.

A third condition is the planning of the discussion. After an exercise, and before the participants disperse, it is essential to set aside time for a debriefing session, revisit the learning objectives, select key episodes, and prepare supporting evidence. It is not necessary to discuss every single event; the focus should generally be on one or two critical decisions, turning points in communication, or subsequent changes. A duration of 10–15 minutes is appropriate for a short exercise, while 30–45 minutes may be suitable for a more extensive simulation; the exact length depends on the complexity of the scenario.

A fourth requirement is to encourage all participants to share their thoughts, without making the sharing of personal experiences a mandatory obligation. The facilitator might employ a sequence consisting of individual written reflection, followed by discussion in pairs, and concluding with a group-wide discussion. In larger groups, organizing several smaller discussion circles can help increase the engagement of quieter participants. Where necessary, anonymous written contributions can be used to allow individuals to express their independent views without fear of negative repercussions.

The proprietary "MFSTAR" debriefing model

The article proposes a six-stage model called "MFSTAR," adapted for the specific educational requirements of military training: M – recalling the goal; F – reconstructing the facts; S – analyzing

HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

the causes; T – identifying correct actions; A – defining a specific corrective plan; R – conducting a reflexive re-test. This term represents a methodological framework developed for this article; it is not presented as an independently validated scale or a patented standard found in international literature.

In the “Goal” stage, cadets restate the training objective and the criteria for success. In the “Fact” stage, the sequence of actions is determined through observation, timekeeping, or simulation records. In the “Cause” stage, the reasoning behind decisions, the information used, and group dynamics are discussed. The “Correct Actions” stage reinforces positive experiences. The “Specific Correction” stage addresses the questions of who will change what, and when. Finally, in the “Reflexive Re-test” stage, the agreed-upon changes are evaluated during the subsequent training exercise. Example of a Practical Debriefing Session for Military Education

Topic: “Information Exchange and Collective Decision-Making in a Group Training Task.” Objective: To develop skills in future officers regarding collaborative situational assessment, precise task allocation, information verification, and reflective analysis of decision outcomes. Format: A classroom-based, non-combat training simulation; designed to teach organizational communication and pedagogical management rather than military tactical maneuvers.

During the preparatory phase, the instructor assigns a project-based task to groups of four to five participants. The task requires them—within a limited timeframe—to compare two distinct sources of information, develop a proposal for the allocation of material resources, and provide a concise summary of their collective decision. Within each group, specific roles are assigned: a coordinator, an information verifier, a timekeeper, and a member responsible for the final presentation. Evaluation criteria are announced in advance: accuracy of information, clarity of roles, quality of communication, and the substantiation of the decision.

For the first 15 minutes, the groups work on the assigned task. The instructor does not provide the answer directly; instead, they record key episodes on an observation sheet—such as when the distribution of tasks shifted, what information was re-verified, or what disagreements arose. The following 5 minutes are dedicated to participants stabilizing their state and engaging in a brief, individual written reflection. This segment does not require the disclosure of personal feelings or private experiences.

The next 20 minutes are allocated for a debriefing based on the "MFSTAR" framework. The facilitator poses questions such as: "What was our objective?", "What results did we achieve?", "Which decisions were based on evidence?", "At what point was there a delay in information?", "What are two things the team did well?", and "What is one specific change to implement in the next exercise?" The facilitator presents critical observations in a manner that is both gentle and clear—for instance, asking, "Two different task-distribution approaches were used in the last five minutes; how would you explain that?"—thereby focusing the analysis on the system of actions rather than on the individuals themselves.

In the final 5 minutes, each group prepares a brief summary consisting of: "one practice to retain," "one practice to modify," and "a date for a follow-up review." For example: “Cross-checking of information is maintained; the person responsible and the deadline are reconfirmed when a task is assigned; and any changes are observed during the next exercise.” In the subsequent session, it is verified whether this indicator actually manifested. Thus, the debriefing does not end with a verbal discussion but instead serves as the starting point for new action.

Criteria for Assessing Effectiveness

HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

The proposed assessment rubric is based on four criteria: 1) distinguishing facts from assumptions; 2) explaining the rationale behind a decision using evidence; 3) demonstrating respect and clarity during group dialogue; and 4) developing a measurable corrective plan for future practice. Each criterion is scored on a scale from 0 to 3: 0 – not demonstrated; 1 – demonstrated only with guidance; 2 – partially independent; 3 – independent and consistent. A total score ranging from 0 to 12 may be used for educational observation; however, this rubric has not yet undergone psychometric validation and should not be interpreted as a formal diagnostic scale.

Limitations of Debriefing and Future Research Prospects

It is essential to clearly distinguish between the various meanings of "debriefing." In this article, debriefing refers to a method of professional reflection and pedagogical feedback following an educational activity. It should not be conflated with psychological interventions that compel individuals who have experienced severe trauma to recount their experiences in public or under duress. The World Health Organization does not recommend psychological debriefing for individuals who have recently experienced a traumatic event, as it is not an effective method for preventing post-traumatic symptoms [12]. Consequently, educational debriefing within a military training context is not a substitute for psychological support or clinical treatment.

Discussion materials must not compromise official secrets, personal data, or the dignity of the participants. When real-life events are used, appropriate authorizations must be obtained, and requirements for anonymization must be strictly followed. It is essential to ensure that any psychological difficulties experienced by future officers do not influence the assessment of their participation in the discussion; instead, they should be referred for professional support when necessary.

To evaluate the effectiveness of the model, future research could employ comparative training groups, pre- and post-assessments, standardized observation forms, and delayed follow-up testing. The primary outcomes to be assessed should not be the level of a cadet's verbal participation, but rather the reduction of errors in subsequent training tasks, the quality of decision-making justifications, and positive shifts in team coordination. This document constitutes a research design; it does not claim to present results from experiments already conducted.

CONCLUSION

Debriefing is a promising pedagogical technology in military education that facilitates the conscious processing of learning experiences, the evidence-based analysis of errors, and the improvement of collective performance. Its scientific foundation is rooted in experiential learning, reflective practice, and the "After Action Review" (AAR) approach. Effective debriefing requires a clear objective, a psychologically safe environment, a trained facilitator, objective data, and a corrective plan to be tested in subsequent training sessions. The "MFSTAR" model serves as a methodological proposal for systematically integrating these principles into the process of higher military education. Before its practical implementation, it is advisable to experimentally verify its educational effectiveness and the reliability of the associated assessment tools.

References

1. U.S. Department of the Army. FM 7-0: Training. Washington, DC, 2021. Appendix K: After Action Reviews.
2. U.S. Army Training Management Directorate. TC 7-0.1: After Action Reviews. 2025.

HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

3. Kolb D. A. Experiential Learning: Experience as the Source of Learning and Development. Englewood Cliffs: Prentice Hall, 1984.
4. Schön D. A. The Reflective Practitioner: How Professionals Think in Action. New York: Basic Books, 1983.
5. Fanning R. M., Gaba D. M. The role of debriefing in simulation-based learning // Simulation in Healthcare. 2007. Vol. 2(2). P. 115–125. DOI: 10.1097/SIH.0b013e3180315539.
6. Rudolph J. W., Simon R., Dufresne R. L., Raemer D. B. There's no such thing as "nonjudgmental" debriefing: a theory and method for debriefing with good judgment // Simulation in Healthcare. 2006. Vol. 1(1). P. 49–55. DOI: 10.1097/01266021-200600110-00006.
7. Eppich W., Cheng A. Promoting excellence and reflective learning in simulation (PEARLS) // Simulation in Healthcare. 2015. Vol. 10(2). P. 106–115. DOI: 10.1097/SIH.0000000000000072.
8. Tannenbaum S. I., Cerasoli C. P. Do team and individual debriefs enhance performance? A meta-analysis // Human Factors. 2013. Vol. 55(1). P. 231–245. DOI: 10.1177/0018720812448394.
9. Keiser N. L., Arthur W. A meta-analysis of the effectiveness of the after-action review (or debrief) and factors that influence its effectiveness // Journal of Applied Psychology. 2021. Vol. 106(7). P. 1007–1032. DOI: 10.1037/apl0000821.
10. Sjöblom B., Lymer G. Conceptual socialization in debriefing: tactics as an object of knowledge in wargame interactions // Instructional Science. 2025. Vol. 53. P. 1781–1808. DOI: 10.1007/s11251-025-09717-8.
11. Keiser N. L. A systematic review of technology in the after-action review (or debrief) // Organizational Psychology Review. 2024. Vol. 14(3). DOI: 10.1177/20413866241245314.
12. World Health Organization. Psychological debriefing in people exposed to a recent traumatic event. mhGAP evidence recommendation, 2012.