HADTUDOMÁNYI SZEMLE

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Computer-aided target intelligence and fire support tactical exercise related to crisis response operations at the operational support department of the Military Science and Officers Training Faculty of National University of Public Service

Célfelderítő-tűztámogató válságreagáló számítógépes harcászati gyakorlat a Nemzeti Közszolgálati Egyetem Hadtudományi és Honvédtisztképző Kar Műveleti Támogató Tanszéken

Abstract

We, at the Operational Support Department of the Military Science and Officers Training Faculty of National University of Public Service, focus on providing modern theoretical and practical training for Officer Cadets. The "TOPCCIS"[1] computer-aided command system, which has been used in education since 2003, is one of the results of the scientific research & development effort of more than 15 years. The cadets of the artillery branch draw up the tactical tasks both in a traditional way on a paper map and in parallel through the "TOPCCIS" command system featuring a geospatial information background. The "TOPCCIS" – "BAGLYAS" is a high-standard computer-aided exercise organized every year, where the cadets play an active role in a crisis management exercise involving the planning, performing, and coordination of fire support, by using the "BAGLYAS" simulation system and the "TOPCCIS" command system. Such exercises provide the opportunity for the Officer Cadets to follow every fire support action of a crisis response operation and to assess the effectiveness of their work through simulation. One phase of the exercise was inspected also by dr. Csaba Hende, Minister of Defence.

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[1]"TOPCCIS" - Tactical Operational Command and Control Information System

Absztrakt

A Nemzeti Közszolgálati Egyetem Hadtudományi és Honvédtisztképző Kar Műveleti Támogató Tanszékén nagy figyelmet fordítunk a honvéd tisztjelöltek korszerű elméleti és gyakorlati felkészítésére. A több mint 15 éve folyó tudományos kutató – fejlesztőmunka egyik eredménye a „TOPCCIS"[2] számítógépes vezetési rendszer, amelyet 2003-tól folyamatosan alkalmazunk az oktatásban. A honvéd tisztjelöltek a tüzér szakirányon az egyes harcászati feladatokat hagyományos módon papír térképre és ezzel párhuzamosan a térinformatikai háttérrel rendelkező „TOPCCIS" vezetési rendszerre is kidolgozzák. Minden tanév különleges színvonalú gyakorlata a „TOPCCIS" – „BAGLYAS" számítógépes gyakorlat, amelynek keretében a „BAGLYAS" szimulációs rendszer és a „TOPCCIS" vezetési rendszer segítségével a tűztámogatás tervezésétől, a végrehajtásán és koordinálásán át a hallgatók aktív közreműködésével kerül levezetésre egy válságkezelési gyakorlat. Az ilyen jellegű gyakorlatok során a honvéd tisztjelöltek egy válságkezelő művelet tűztámogatásának minden mozzanatát figyelemmel tudják kísérni, a szimuláción keresztül közvetlenül le tudják mérni a saját munkájuk eredményességét. A gyakorlat egy mozzanatát megtekintette dr. Hende Csaba honvédelmi miniszter is.

In accordance with the annual educational plan, on 28-29 04 2014 a computer-aided tactical-level command and control exercise was conducted for the 3rd-4th-year artillery Officer Cadets of the Operational Support Department of the Military Science and Officers Training Faculty (MSOTF) of the National University of Public Service (NUPS). The subject of the exercise was day- and night-time fire support for Company Combat Groups and a Battalion Task Force (BTF) carrying out crisis response operations in border areas. An important feature of the exercise was that all actions were performed through computer systems managed by Officer Cadets.

The exercise was conducted in the "Baglyas" simulation room and in the "TOPCCIS" combat control room. The Exercise Director, Lieutenant-Colonel Dr. Tibor Szabó, Associate Professor, Head of Faculty headed the exercise in the Baglyas room. The Deputy Exercise Director, Lieutenant-Colonel ret. Dr. Attila Furján controlled the work of the Battalion Fire Support Cell in the "TOPCCIS" room, and monitored the operation of the "TOPCCIS".

The "Baglyas" simulation system was used for the simulation of enemy and own tactical actions, for the movement of refugee groups through the border, for the presentation and movement of enemy targets in day- and night-time circumstances, and for target intelligence. In fact the "TOPCCIS" computer-aided combat control is intended for the planning and controlling of not simulated, but real operations (combat) that has been

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[2] „TOPCCIS" - Tactical Operational Command and Control Information System – Harcászati-Hadműveleti Vezetési Irányítási és Információs Rendszer

continuously developed for 17 years by a special research and development group, and applied in its entirety in education at the Operational Support Department.

The basic concept of the exercise were tensions between the two neighbouring countries "REDLAND" and "BLUELAND". The population is mixed on the border areas of both countries. The government of "BLUELAND" recognizes the increased cultural efforts of the minorities of the country, while the radical leadership of "REDLAND" finds that border adjustments to the detriment of "BLUELAND" would be the key to a solution.

To close the endangered directions, a Battalion Task Force (BTF) has been deployed at a 35 km wide and 15 km long operational area at a distance of a 10 km (safety zone) behind the border, in order to prepare for the annihilation of irregular armed groups moving through the border, stopping the attack of larger armed groups and pushing them beyond the border through counter-attacks.

The exercise was planned in accordance with the features of "Other non-article 5 crisis response operations". "Those operations are considered Other non-article 5 crisis response operations which are usually carried out individually by national military forces, or if a larger-scale intervention is needed, by coalitions"[3]

The fire support and fire intelligence for the Company Combat Groups was coordinated and commanded by the Fire Support and Fire Observation Groups of the Companies (COY FSFOG); and the Support Platoons (including mortar and armour-piercing squads) that provided continuous fire support for the Companies.

On Battalion level, the fire support cell (under the leadership of a 4th-year Artillery Officer Cadet) planned, commanded and coordinated target intelligence, collection and processing of target intelligence data, and fire support in favor of the Battalion. Fire support was ensured by an 82 mm Mortar Battery, andby a 122 mm Self-propelled Howitzer Battery in the night phase of the operations for illumination tasks, and by a 152 mm Towed Artillery Battalion in the final phase for the counter-attack by the Battalion.

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[3] AJP-3.4 Allied Joint Doctrine for Non-article 5 Crisis Response Operations

The first action of the exercise was to simulate migration and to collect and process intelligence information. The simulation equipment was used to visualize the civilian refugees' movements through the border. The simulation tasks were to monitor the refugees, to process their activities using the "TOPCCIS" command system, and to forward the

Picture 1: A 4th-year Officer Cadet as the Commander of a COY FSFOG, carrying out target intelligence on the simulation equipment and making a decision to destroy the target (own source)

results to the Battalion Fire Support Cell . These tasks are very important in teaching the students how to collect and process information on migrations through the "TOPCCIS" computer-aided command system, present and monitor the movements of refugees on a digital map, as well as to forward the results to the Battalion Command Post.

In this phase, Officer Cadets gained basic practical skills in the handling of the intelligence module of "TOPCCIS" command system; and this phase welded together the whole command system, the information flow, and the command and control. That is, both the personnel and the simulation- and "TOPCCIS" command system were prepared for practicing the next action, when enemy targets would cross the state border.

An important task during the exercise was to display on the simulation equipment the time-sensitive targets, which are very typical of tactical actions. Time-sensitive targets are those,

Picture 2: A 3rd-year Officer Cadet processing target intelligence information using „TOPCCIS" command system (own source)

which require immediate response as their current or future position endangers own

operations, or their annihilation would significantly support the implementation of the operation.[4]

The eight 3rd-year Officer Cadets functioned in the following posts: 3 Officer Cadets handled the "TOPCCIS" computer located next to the intelligence simulation computer in the "Baglyas" simulation room. One Cadet worked with the 4th-year Cadets in the Battalion Fire Support Cell, and the rest of the 3rd-year Cadets carried out staff work at the Fire Control Post. The 4th-year Cadets, acting as Commanders of a COY FSFOG, carried out target intelligence on the simulation equipment, and made the decisions on destroying targets after the analysis of them. Two 4th-year Cadets worked in the Fire Support Cell in the "TOPCCIS" room, and the others at the Fire Control Post in the "Baglyas" room as staff officers and Deputy Battery Commanders (Fire Control Post Commanders).
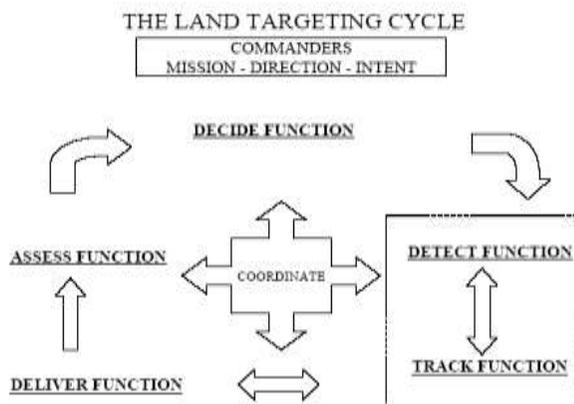

Figure 3-1 The Land Targeting Cycle

1. Figure: The general flow chart of target planning[5]

The Company Fire Support and Fire Observation Group carried out the target intelligence, the pre-assessment of targets, and the direction of Company-level fire support. 4th-year Officer Cadets performed the simulated intelligence and forwarded target

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[4] HDF Joint Targeting Doctrine, 1. edition, a publication of the Hungarian Defence Forces, Budapest 2014. p. 54.
[5] AJP-3.9.2, p.20. THE LAND TARGETING CYCLE

intelligence information to the adjacent "TOPCCIS" workstation. There the 3rd-year Cadets pre-assessed the target intelligence information using the software and examined the importance of the target and whether it can be destroyed through the fire support resources of the Company. In case a target fell into the high pay-off category and posed a direct threat to the activities of the Company, the Commander of the FSFOG submitted a proposal to the COY COM to destroy the target, and they individually carried it out. The target intelligence data were also forwarded to the Fire Support Cell of the Battalion, where a final target assessment was performed.

Picture 3: Company fire support and fire observation groups and the simulation equipment (right), and „TOPCCIS" workstations (notebooks) on the left (own source) and „TOPCCIS" workstations (notebooks) (own source)

If the destruction of the target was not possible through the fire support sources of the Company, then the Commander of the COY FSFOG submitted a call for clearance to the superior Fire Support Cell. The call for fire was composed in accordance with the AARTY P-1 Doctrine.

Having received the order to fire, the Officer Cadets (3rd- and 4th-year) working at the Fire Control Post calculated fire data and forwarded the order to the firing platoons (mortar and artillery). The 4th-year Officer Cadet handling the target intelligence simulation monitored fire and forwarded the results to the Fire Control Post, where the necessary corrections were made and fire for effect was delivered. The COY FSFOG Commander (4th-year) monitored the fire for effect and examined the result of destruction. The 3rd-year staff Cadet entered these observations into the digital intelligence log of the "TOPCCIS" and performed the evaluation with the software, which was indicated on the digital map as well. After that, the evaluation of target destruction was forwarded to the Battalion Fire Support Cell.

The methodology of land target planning was based on the Decide, Detect, Deliver and Assess (D3A) functions, which also covered the planning and implementation phases. This methodized the work of the Commander and the Staff in order to meet the key target

Picture 4: Calculation of fire data under the leadership of a 4th-year Officer Cadet at the Fire Control Post (own source)

planning requirements. The target planning process supported the decisions of the Commander. It facilitated the work of the target planning group deciding, which targets were to select and to destroy. It assisted in deciding, which attacking method should be used to destroy the targets and to achieve the desired effects.

Picture 5: The Battalion Fire Support Cell collects and processes the target intelligence information, and commands and coordinates the fire support for the Battalion using the "TOPCCIS" command system (own source)

This was a continuous process, which was constantly refined as a combat progresses."[6]

By using the "TOPCCIS" command system the Battalion Fire Support Cell commanded and controlled the subordinated Company-level fire support and fire observation groups, controlled target intelligence, collected and processed target intelligence information, and continuously planned and controlled fire support. It gave fire orders to the Mortar Battery subordinated to the Battalion and to the fire support providing Artillery Battery of the Battalion, aiming at the targets to be destroyed in favour of the Battalion. It judged the requests for fire by the fire support and fire observation groups of the Company. In the last phase of the exercise, when the attack by the irregular armed groups was successfully stopped, the Battalion Fire Support Cell planned the fire attack to prepare the counter-attack. The whole planning process was presented and explained for the 3rd-4th-year Officer Cadets.

At the end of the exercise, the instructors evaluated the actions in detail and the Officer Cadets received their individual ratings.

SUMMARY

For many years now, we at the artillery branch of the Operational Support Department have used the achievements of scientific research and development, which allowed Officer Cadets to use computer-aided geospatial information systems to plan actual operational situations, collect, evaluate, and process target intelligence information, and to plan, command and coordinate fire support. These practices provideed an opportunity for them to directly evaluate the effectiveness of their own work through the simulation equipment, e.g. to evaluate the correctness of target intelligence and target data processing, the accuracy of fire data calculation, and the accuracy of the monitoring and correction of fire for effect. By combining the two computer systems, the whole operational process can be monitored and an eventually poorly performed action can be repeated.

Such exercises facilitate the understanding of the very important fact that artillery fire is not for its own sake but it shall be planned, commanded and coordinated for the sake of implementing a joint objective.

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[6] AARTYP-5(A) NATO Indirect Fire Systems Tactical Doctrine, 2. ratification draft, Chapter VI, 413.p.

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