

The Application and Enlightenment of Wargaming in US Military Colleges and Universities

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Abstract: The development of US wargaming started early, and through continuous exploration, it has become a wargaming system with distinctive functions and professional use. This paper widely adopts the teaching mode of wargaming in US military colleges and universities, analyzes and summarizes the application of wargaming in US military colleges and universities and its enlightenment to the education of our army's colleges and universities, and puts forward some countermeasures for adopting the teaching mode of wargaming in the teaching of our army's colleges and universities.

Introduction

War game is the use of chessboards and pieces that represent the battlefield and its military power, according to the rules summed up from the war experience. Combining the principle of probability, it is a method and means of combat simulation to deduce and evaluate the military science tool by deducing a series of decision confrontation of personnel from all sides.

Wargaming is a scientific and efficient war research tool, whose English name is "war game" or "wargaming"^[1]. It is a combat simulation method invented by Prussia von Levitz at the beginning of the 19th century. War game was popularized in the Prussia army in 1824 and later introduced to all countries of the world. It played in World War I and World War II. An irreplaceable role^[2]. The original war game was composed of sand table model, chess pieces and rules that simulated the real terrain. With the development of science and technology, paper chess, computer chess and so on appeared. The deduction of war game provides a set of scientific and feasible operational effects. The adjudication tool, in the course of combat training, the commander can make a scientific and reliable effect evaluation of the combat operation, which makes up for the fact that the commander can make a scientific and reliable evaluation of the effect of the combat operation. The shortcomings of sand table deduction in this regard.

With the continuous development of wargaming, war game has become an important tool for the US military to train officers and study war. Compared with the traditional military training teaching modes such as war practice learning and field exercise, wargaming has many outstanding advantages, such as saving money, saving time, saving troops and equipment, wide training range, complete subject, strong antagonism, high efficiency and so on. Especially when the subject of training is aimed at the future combat, new military weapons, unmet combat objects and so on, the training opportunities that can be provided by wargaming can not be compared with the traditional teaching mode.

After World War II, the US wargaming went to a low point. After the Vietnam War, the US military carried out reflection and transformation, and the war game was reintroduced. Entering the military colleges has become an important analysis and evaluation tool, and each military college has a more mature ability to wargaming. Professional military education institutions in the United States believe that renewed emphasis should be placed on war game exercises to help officers solve complex problems in the future. Wargaming Provide leaders with decision-making practices, support innovation as part of a larger "research cycle", and promote greater acceptance of subordinates'

initiative, flexibility and adaptability. wargaming is as flawed as any other analytical method, but it is a powerful learning tool that needs to be paid attention to in military schools and in a wider range of fields.

The Application of Wargaming in the Teaching of US Military Colleges and Universities

Wargaming is a compulsory course for students of US military colleges and universities. The National Defense University, Air Force University, Naval College and other colleges and universities of the US military all regard wargaming as training officers and civilians at all levels.

Compulsory courses for staff and staff officers. The main wargaming of the Army War Academy is the "Strategic decision determination exercise" (SDME), which is set at some point in the future. Participants need to deal with multiple crises, including terrorist threats, natural disasters, and so on. Participants were asked to conceive corresponding plans, set up inter-agency policy committees, representative committees and national security advisory committees to make strategic decisions, apply crisis response plans for military operations within the framework of national security strategies and national military strategies, and advise on policy development; optimize scarce resources and coordinate and cooperate with them. The exercise requires students to simulate scenarios of cross-agency or intergovernmental collaboration in allies' classrooms and to play freely as appropriate. Finally, students should find ways to assess risks, build coalitions, and solve other complex problems. In an environment where time is compressed and resources are limited, each student must make important decisions, including traditional and unconventional plans.

Since its establishment in 1887, the Department of war game of the Naval War Academy has conducted 25 major wargamings each year, 40 percent of which have been used for teaching^[4]. As the oldest war game organization in the US military, the Department of war game receives a large number of external tasks every year from the Ministry of Defense, the Ministry of the Navy, headquarters, the Office of the Vice President, the Federation of staff, and the Minister of the Navy, and so on. The research content of war game ranges from space war to anti-submarine war, from unconventional warfare to global war. Participants included junior officers, four-star generals and naval officers from all over the world. The Naval War Academy believes that "war game is the carrier for the emergence, testing, and discussion of strategies and battle concepts." Provide useful information to decision makers in maritime and joint operations. The decision of the participants is the core of the design and analysis of war game. As far as teaching is concerned, the War College carries out a wide range of war game exercises every year to test the learning situation of the students. Through a series of freely set up events, students to exercise. This requires not only the necessary planning skills of the participants, but also the integration of their imagination into the military action plan. Repeated deductions reinforce what students have learned and allow them to conduct self-assessment. For example, in the naval war class, they developed and implemented a crisis action plan. On the basis of the presentation, which lasted for two weeks, the participants spent 10 weeks carefully conceptualizing a formal, maritime commander concept plan, which was an expansion and refinement of the action plan that had been developed.

The Air Force Wargaming Institute ((AFWI)) was established in 1986 at Maxway Air Force Base, Alabama^[5]. The Institute has set up a considerable number of wargaming projects, such as "vault stone" wargaming and so on. Each year, the Air Force Chess deduction Institute carries out and implements about 21 wargamings, attended by about 5625 personnel. The deductions use computers, simulation models and seminars to solve the problems of how to deploy, fight and carry out combat support. The "laboratory environment" provided by the Institute enables current and future leaders and staff officers to truly study problems arising from war. The Air Force War Academy's annual wargaming is called "challenging (Solo Challenge) alone", which includes elements such as leadership, discipline, strategy, political / military affairs, joint / contractual operations, space power and science and technology. It enables participants to demonstrate their ability to translate national decision-making into strategic and campaign-level actions. The students who take part in the war game

exercise should set up scenarios according to the current situation at home and abroad, and they will face the difficulties of insufficient troops and overseas bases. The game includes a day of cadet launch, three days of crisis action planning, and a day of action, and an evaluation summary day. The deduction is divided into three separate parts. Each section consists of nine cadets, namely, the National Security Council, the Policy Committee, the Joint staff, the Africa Command, the Special Operations Command, the United States Central Command, the Pacific Command, the United States Northern Command and the operational Force.

At present, there are about 100 participants in (JLASS), the largest joint exercise project in joint education, namely, the joint exercise of sea, land, air and space. The exercise, which focuses on joint and contractual operations at the strategic and strategic levels, is a multilateral, computer-aided strategic and battle chess deduction based on the form of discussion. It is composed of field troops, task forces and air force tactical formations, and is the only joint wargaming held in higher military education colleges and universities. Its purpose is to enhance the effect of joint vocational education through the test of regional crisis management by the US military. The deduction sets a scenario for regional conflicts over the next 10 years. The assignment of tasks is usually carried out in the respective locations of the participants. Teams need to immediately establish assumptions about the world situation and specific crises, as well as to understand the goals that their countries and other relevant countries need to achieve, and to build partnerships accordingly. Participants in each military school are divided into two parts: the Red team and the Blue team. The students of the Air Force War College, the Army War College, the Marine Corps War College, the Naval War College, the Naval War College and the Armed Forces Industrial College form the Blue team, and the instructors of the various military academies form the Red team.

Each team instructs the staff officers to make their own battle plans for the war zone. At the completion stage of the campaign plan, participants gathered at the Air Force Chess deductions Institute in April 2002 to begin formal wargamings. Troops are deployed by handwritten operational orders from both sides of the war, and decisions are made through synthetic manuals / computer coalition input analysis.

The National Defense University of the United States has offered military mobilization simulation, joint combat simulation and cooperative combat simulation courses for cadets, the purpose of which is to cultivate the ability of cadets to use computer chess deduction system to make force mobilization plans and joint operations plans.

Wargaming is a necessary skill for senior US military officers. The US military requires its generals and generals to undergo training in combat simulation and high-level confrontation simulation courses before assuming their current duties, so that senior military leaders can become more experienced people in the real face of the crisis. For this reason, the National Defense University of the United States has specially set up a combat simulation and simulation center based on wargaming training (WGSC-Wargaming and Simulation Center,) to assist the colleges and universities of the National Defense University to carry out the training of system analysis and combat simulation of senior officers. The Teaching of WGSC, there are three kinds of simulation^[5]: political-military simulation, computer combat simulation, qualitative and quantitative combat simulation. Among them, political-military simulation is the most important means to train senior officers, which mainly includes three contents:

First, "the heart of crisis decision-making exercises." The exercise is aimed at the hypothetical future world week, when the national interests of the United States are threatened. Policy recommendations from hostile countries should be addressed and optimal deployment options should be proposed in the event of deterrence failure.

Second, the "Joint and Cooperative decision-making exercise", which is a graduation course for cadets of officers and soldiers of various branches, requires students to respond to the region. And global crises to respond and advise.

The third is the "night activity exercise". The exercise is a graduation exercise included in the national security course for senior reserve officers.

Enlightenment

For a long time, the command decision of our army has basically been carried out by qualitative analysis and empirical judgment. Lack of a safeguard intention, battlefield situation into action deduction and evaluation means, to master the knowledge and tools of wargaming is very strong demand for talent.

In recent years, a number of military academies have begun to try to apply wargaming to teaching. Therefore, in the training of our army officers, we should actively introduce the teaching mode based on the wargaming platform, combined with the typical war examples and historical data, to provide the cadets with the opening. The deductive and training environment of play and research. In order to improve the students' interest in learning, let the students experience the command decision-making process, and make the future command personnel have rich decision-making experience in the face of all kinds of military operations: the application of wargaming in the teaching of colleges and universities should actively take the following countermeasures:

First, vigorously popularize the teaching knowledge of wargaming. The teaching with wargaming is a new thing, and its related concepts, knowledge and methods are rarely used in the training and teaching of our army at present, and there are not many teachers who really fully understand and master the relevant knowledge, methods and professional skills. Therefore, it is necessary to guide teachers to fully understand the importance of using wargaming to carry out logistics support decision-making and command, and vigorously popularize relevant knowledge.

The second is to strengthen the basic research of wargaming. At present, it is necessary to strengthen the study of command decision-making and war case analysis by using wargaming. In the first step, it is necessary to deeply study the theory and method of wargaming and master the use of relevant tools and software: step 2, under the guidance of relevant theories and methods, carry out the collection, collation and research of military command theory, analysis method and processing strategy data, complete the quantitative processing and formal description of related processes and data, and establish the model: step 3, complete the relevant war game rules. The fourth step is to construct the experimental environment of wargaming teaching to meet the needs of command decision-making, to develop relevant system software, database and knowledge base: step 5, to complete the establishment of relevant course system, to make wargaming a compulsory course for relevant graduate students, and to improve the ability of graduate students to use quantitative and qualitative analysis methods to carry out command decision-making.

Third, the teaching design is mainly based on the command and decision-making chess deduction. Taking the wargaming system as the platform and taking the deduction scenario and rules as a case, it is a good way to realize the case teaching. The students are divided into three or four groups, which form the red party deduction group, the blue side deduction group and the referee group to carry on the deduction. The teacher only needs to introduce the use and work of the wargaming system at the beginning of the course. War background, war game rules and so on, after the deduction to carry on the review analysis, the summary, in the deduction process does not need to intervene, affects the student's thinking and the operation, gives the student the space to play freely. In this way, the benign interaction between teaching and scientific research has been formed, so as to improve the students' scientific research and practical ability.

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