



CHAPTER 19

**REFLECTIONS ON GLOBAL TRANSFORMATIONS
IN WARGAMING: A CREATIVE EXPERIENCE AT
NATIONAL DEFENSE UNIVERSITY**

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Abstract

The present study will examine the wargaming experience at the Turkish National Defense University. As the existing literature discusses the changing nature of warfare, this change is also reflected in the context of military education. In Türkiye, the Turkish National Defense University represents a significant institution for the provision of military education. In addition to the aforementioned discussions on the change in the style of warfare, the war game is becoming an increasingly central component of military training in conjunction with the advancement of technology. In the contemporary era, wargaming has become a common methodology utilized to enhance military leadership, decision-making, and policy-making processes, particularly within the domains of security and strategy. In attempting to anticipate the nature of future wars, wargames offer both insight and guidance in determining the requisite institutional capacity. Nevertheless, the utility of wargaming has expanded beyond its initial role as a military training instrument, with researchers in political science and international relations also employing it. Such simulations can be utilized to enhance the capacity for strategic foresight, encompassing both current political developments and decision-making processes. At the Turkish National Defense University, war games are conducted annually at the conclusion of the training program to evaluate the efficacy of the learning process. In these games, which are attended by a select group of military leaders, participants gain invaluable experience in demonstrating leadership in high-pressure situations, from modern warfare to potential future conflicts. However, as with any tradition, this wargaming practice has its own limitations and shortcomings. This article will explore ways to develop and improve this tradition.

Keywords

Wargames, Military Leadership, Military Change, Turkish National Defense University

Introduction

Wargaming is a competitive activity in which human players represent actors and make decisions based on a set of implicit or explicit rules (Bartels, 2020). These decisions are made in response to the potential consequences of their actions, which they must grapple with. The use of gaming as an approach to policy analysis has a long history in national security circles, influencing significant policy debates on a range of issues, from nuclear politics during the early Cold War to the emerging challenges associated with today's unconventional wars (Caffrey, 2019). In recent years, there has been a resurgence of interest in gaming among military elites, policymakers, and sponsors. This is partly due to renewed interest in historical games that have shaped national security policymaking at key decision points, as well as new challenges that require new insights to overcome them. Furthermore, it can be evaluated in the context of the ongoing debate on the new style of warfare, particularly in light of the Ukraine crisis. This evaluation should consider the adaptation of military education to this change, taking into account the impact of technological developments on this new style of warfare. Despite longstanding investments in the use of gaming as an important tool for policy analysis, game sponsors, designers, and consumers often report that games are of uneven quality and do not achieve their intended goals (Pauly, 2024).

The use of wargames can be traced back thousands of years, with evidence of games in ancient Rome, early Iraq, and China (Caffrey, 2019). Wargames assumed a central role in the conduct of modern warfare with the development in Prussia of the *Kriegspiel*, a board game that simulated warfare for the purpose of training officers (Schuurman, 2021). A century later, the United States' adoption of war games for military planning between World Wars I and II constituted an important factor in the Navy's success in the Pacific (Lillard, 2016). During the Cold War, the US military once again employed wargaming to comprehend the ramifications of the nuclear revolution (Pauly, 2018). Post-Berlin Wall, US defense wargaming persisted, with games devised to assess novel concepts regarding warfare and fundraising strategies (Krepinevich & Watts, 2015).

Despite its lengthy history, the precise definition of a "war game" remains somewhat ambiguous (Sepinsky, 2021). Although war games were originally developed as a means of preparing for warfare, their utility extends well beyond the domain of military studies. Governments employ gaming techniques to simulate natural disasters and assess economic cooperation (Abbasi et al., 2012). Consultants utilize war games to evaluate the efficacy of novel business strategies (Orišek & Shwarz, 2018). Furthermore, academics have employed gaming as a tool to examine the influence of human behavior on a range of social and political phenomena (Camerer & Fehr, 2004). For instance, Thomas Schelling's work on coercion was significantly influenced by the Department of Defense war games he designed (Schelling, 1987, n.d.). Additionally, Schelling's contemporaries employed simulations to examine conflict and nuclear use (Bloomfield, 1965). Subsequently, scholars have employed experiments embedded in games to evaluate explanations for conflict initiation (Johnson et al., 2006) and domestic political bargaining (Hamman et al., 2011). In recent times, political scientists have employed the use of war games as a means of studying phenomena for which data is scarce. This includes the impact of new technologies on international relations (Jensen & Banks, 2018, n.d.).

This study will examine the experience of the National Defense University in Türkiye with regard to the implementation of war games. The National Defense University's annual wargaming exercise will be examined in detail, encompassing the full range of processes involved, from design and implementation to post-implementation analysis and evaluation. To this end, the study will first examine the fundamental aspects of a wargame, including its constituent elements, analytical tools, and implementation. This descriptive section will be analyzed alongside the experience of the National Defense University. Following this analysis, the study will identify the limitations of the experience and propose enhancements to the model. Finally, the conclusion will discuss the potential contributions of this experience to disciplines such as international relations and political science. Consequently, an investigation will be conducted to ascertain the manner in which global military transformation is reflected in military education and in the practices of the Turkish National Defense University.

Wargames as Strategic Tools for Nations in a Transforming Era

The United States Department of Defense defines wargaming as “the representation of conflict or competition in a synthetic environment in which people make decisions and respond to the consequences of those decisions.” (Joint Chiefs, 2017, n.d.). The game is a model of a specific national security problem related to people, with players representing actors with competing objectives who are attempting to develop a strategy to improve their position. These actors may then make decisions regarding the definition and implementation of their preferred approach to managing the problem, which is conducted through processes that are framed within the game. These decisions then influence other actors and the wider environment in which the competition takes place through a set of rules. In essence, gaming involves human actors representing actors who make decisions based on a set of implicit or explicit rules in a competitive environment and grapple with the potential consequences of their actions (Curry, 2019).

The representation of the actors involved, the environments, and the rules of the different games vary considerably. For example, a game may consist of a single player at a computer terminal directing animated military forces through realistic depictions of a real-world theater of operations. Alternatively, it may involve 15 players periodically rolling dice on either side of a map while moving cardboard counters printed with military symbols. In another example, hundreds of military officials may be divided into small teams and receive occasional text messages about an escalating diplomatic crisis. Despite these differences, all of these games can be considered to fall under the category of games (Mayer, 2009).

This diversity has predictable consequences for developing a clear understanding of what constitutes a game and what does not. There are numerous variations and interpretations of the definition of wargaming, which have resulted in significant disagreements regarding the boundaries of what constitutes gaming. For instance, doctrinal definitions are subsumed within the discussion of action plan analysis, which has led some to argue that only games that explore a proposed military action using the procedures listed in the document can be considered wargames. Others have highlighted the broader range of applications observed in national security studies. Additionally, there is a debate surrounding the necessity of a human adversary in “competition,” with some proposing that forces such as disease, natural disasters, and bureaucratic friction can serve as viable competitors. Other debates center on the concrete nature of player decisions and the extent to which those decisions should shape the outcomes represented. While efforts have been made to resolve these tensions, consensus has been slow to emerge (Mayer, 2009). Additionally, there is a debate surrounding the necessity of a human adversary in “competition,” with some proposing that forces such as disease, natural disasters, and bureaucratic friction can serve as viable competitors. Other debates center on the concrete nature of player decisions and the extent to which those decisions should shape the outcomes represented. While efforts have been made to resolve these tensions, consensus has been slow to emerge (Mayer, 2009).

Wargame Elements and Adaptation

Wargames are interactive activities that exhibit four defining characteristics. Firstly, they involve human players who are immersed in a scenario. Secondly, they are constrained by a set of rules. Thirdly, they are driven by an outcome-based motivation.

First and foremost, wargames are played by human participants. As Perla notes, wargaming is an exercise in human interaction. The strength of the work lies in its exploration of the role and potential effects of human decisions (Perla, 1990). This human characteristic makes war games ideal for research in which the dependent variable or putative causal mechanism is related to human behavior. Indeed, games can help elucidate the microfoundations that underpin many scientific theories or the lower-level mechanisms derived from individual human behavior (Kertzer, 2017). The human element of war games distinguishes them from computer simulations or econometric “games” where models simulate hypothesized human behavior.

Secondly, wargames situate human participants within scenarios that emulate real-world decision-making processes (Pettyjohn, 2019, n.d.). The degree of realism and contextual integration inherent in wargaming scenarios distinguishes them from laboratory and survey experiments, which have become prevalent in EF research. These simulated decision-making environments, which closely resemble those participants regularly encounter, may prompt players to exhibit behaviours that closely mirror their conduct in analogous real-world contexts. The design of war games requires a careful balancing act between abstraction and realism. While abstraction facilitates the execution of games, realism is an intrinsic aspect of war games and can ultimately enhance the robustness of the findings generated by such games.

Thirdly, the rules of war games stipulate the manner in which human players engage with the scenario. The rules may be either strict, allowing players a limited number of actions, or free-play, wherein players are permitted few restrictions. The rules can influence the behavior and outcomes of players, which in turn affects the conclusions that observers can draw from the game. Consequently, the establishment of rules gives rise to intricate design trade-offs. To illustrate, free-to-play games can impede the replication of strategies, whereas strict games are more prone to constraining outcomes in an unnatural manner. While rules are a feature that games share with many simulations, models, and experiments, war games (especially those involving multiple moves, players, or teams) often employ more complex rules governing how teams can interact while allowing a wider range of behavioral choices, and hence more variation in outcomes. To illustrate, a research experiment might inquire whether subjects wish to utilize military force, whereas a wargame might inquire how and when to utilize the military forces at their disposal.

A fourth feature of wargaming that distinguishes it from the majority of other research approaches is the experiential nature of its outcome-oriented results. As Bartels posits, a wargame should situate human players within a competitive milieu founded upon a set of implicit or explicit regulations, prompting them to navigate the prospective ramifications of their actions (Bartels, 2020). These consequences, such as the potential for losing a war game or for decisions made in an earlier round to affect the subsequent round, are believed to encourage participants to engage in more profound deliberations regarding their decisions. In more common research approaches, such as survey experiments, participants are often not confronted with real or simulated outcomes. War games, at best, encourage players to consider the consequences of their actions beyond the immediate “game” consequences. The success of this aspect depends on the ability of game designers to make trade-offs around the previous three aspects, including selecting appropriate players, creating scenarios that align with the desired outcomes, and establishing rules that facilitate the desired behaviors.

In essence, wargames are interactive scenarios involving human players who make decisions in accordance with established rules and respond to the outcomes of their actions. The diversity in these four characteristics has resulted in a multitude of “wargames” that vary significantly in their format and structure. For instance, wargames encompass a range of formats, including board games, tactical tabletop exercises with a limited number of participants, and political-military games with hundreds of participants. They can be played in person, virtually, or through a combination of both formats, and they adhere to different sets of rules. Scholars must understand how these characteristics influence the implications for IR theory and decision-making that can be drawn from games.

The Relationship Between Wargaming, Analytical Tools, and Global Trends

In the field of national security analysis, games are frequently situated within and distinguished from three other categories of analytical techniques: workshops and seminars, modeling and simulation (M&S), and exercises. The precise delineations between these other three approaches are somewhat obscured by ambiguity in common usage, but the general characteristics are relatively well accepted. An exercise is defined as “a military maneuver simulating a wartime operation,” and is distinguished from a war game by the use of actual military equipment and the movement of forces (Simpson Jr, 2017, n.d.). In contrast, a workshop “encompasses the gathering of subject matter experts to deliberate on a problem,” yet it is not oriented towards guiding participants towards specific resolutions or addressing the projected consequences of those actions. While workshops facilitate the synthesis of findings by subject matter experts, the lack of structure can result in discouraging

fragmentation and inconclusiveness when these discussions are summarized. Finally, models are defined as “the logical representation of a system, entity, and phenomenon or process,” while simulations are “a model in action over time.” In common defensive usage, these terms often refer to mathematical models that depend on the operation of computers, which contrasts with games because they do not involve a real event (Goldhamer & Speier, 2011).

Although these distinctions may appear to be relatively straightforward in theory, in practice, the boundaries between them are not as clear-cut as they seem. To illustrate, certain exercises necessitate the involvement of actual personnel in a simulated confrontation with an active adversary (referred to as the “red team”). In particular, in command post and staff exercises, where the rehearsed roles are oriented towards planning and decision-making, it can be challenging to discern the boundary between the exercise and the game (Simpson Jr, 2017, n.d.). In workshops, the question of the clarity of decisions and the directness of the link between decision and outcome arises. To illustrate, if an event entails a predefined scenario in which participants make decisions about how to respond to a crisis, but the behavior of external actors is pre-calculated and considered dominant in determining outcomes, the appropriate classification can be highly ambiguous. Similarly, a human model or simulation within a game represents a category of M&S in which a human must interact with a model to make decisions at key points, a process that is indistinguishable from a computerized war game. Consequently, it is often most appropriate to conceptualize these tools on a spectrum and to accept that different practitioners will prefer to draw the line between the use of the terms in different places (Goldhamer & Speier, 2011).

In many instances, the selection of terminology for a specific occurrence is primarily influenced by bureaucratic factors rather than a genuine aspiration for analytical precision. In some communities, the use of the term “play” may be intended to enhance visibility rather than to pursue serious analytical endeavors. A designer working in such a field may opt to utilize “exercise” or “seminar” in order to establish a more serious tone. Alternatively, communities that prioritize quantitative research may advocate for the use of “simulations” over “games.” Concurrently, the accessibility of resources within the organization for particular instruments or accumulations of a term may prompt the utilization of one term over another as a means of furnishing supplementary resources and attention to the undertaking (Guetzkow, 1963). In addition, objections to the use of one term over another can be regarded as a form of quality control. For example, the fiction of “a group of men sitting around a table” is often used to claim that an event took place. It should not be considered a game, sometimes because it lacks a descriptive element, sometimes simply because of poor execution. Games whose outcomes are determined by expert judgment may be considered “a bunch of men” if the quality of expertise or transparency in decision-making is not sufficient.

Furthermore, games are increasingly utilized in social science research pertaining to national security concerns, particularly within the domains of international relations and political science. In this context, games are frequently referred to as simulations. In this context, games are frequently contrasted with three distinct methodological approaches: (1) case study methods that employ archival research and interviews to gain a comprehensive understanding of a historical case; (2) formal models that utilize game theory and other mathematical tools to simulate behavior; and (3) laboratory and research experimental techniques. However, in contrast to the other comparisons listed above, the use of gaming and simulation in the context of political science is still in its infancy as a research tool. The majority of existing literature and active practice focuses on gaming as a teaching tool rather than as a means of conducting research, and thus falls outside the domain of study (Bartels, 2020).

The Implementation and Evaluation of Wargames

Having defined what a game is, we can now turn to examining how games are used in national security policy research and analysis. In the fields of national security policy, games are applied to a wide range of objectives and problems, the utility and relevance of which are subject to debate.

In addition to historical approaches to the value of gaming, some leaders and practitioners present compelling narratives that serve as touchstones for the field. These narratives address the potential contributions of gaming to national security research, focusing on three key aspects: its capacity to influence policy, its ability to provide insights into uncertain aspects of decision-making, and its impact on participants. For instance, Work and Selva posit that games are beneficial in the context of security due to their capacity to facilitate the generation and socialization of novel ideas. Such innovations are of critical importance in times of strategic uncertainty. To illustrate, when security elites were attempting to respond to the emergence of comparable adversaries following a prolonged focus on the wars in Iraq and Afghanistan, games played a pivotal role in aiding decision-makers (Work & Selva, 2015). In other words, the assistance that games can provide to senior leaders is what defines their value and thus justifies the increased resources and attention directed towards them.

An alternative perspective emphasizes the capacity of games to illuminate issues that are often beyond the scope of other methodologies. For instance, Thomas Schelling posited that games possess a distinctive capacity to examine the interconnections between disparate decision-making units, thereby facilitating an investigation of the dynamics inherent to decision-making processes. This makes games an appropriate means of studying communication, intention, perception and misperception, signaling and other similar topics. Additionally, he emphasizes the unintentional advantages of games, such as facilitating an avenue for information exchange that leads to valuable insights that may not have been accessible otherwise, both to humans and to those engaged in information gaming or analysis (Levine et al., 1991). These advantages are frequently realized at a later stage in participants' professional lives, when ideas and contacts from past games prove relevant to current challenges. Furthermore, he underscores that games can yield "useful principles" regarding common trends in human behavior, analogous to the insights provided by game theory models such as the Prisoner's Dilemma.

A final perspective considers the distinctive influence of games on those who engage with them. For example, Peter Perla and Ed McGrady highlight the significance of the role of actors in games. In this perspective, games are regarded as a means of "sharpen[ing] and refine[ing] the stories we tell ourselves," which may entail either generating new stories or socializing a story more broadly within a department. This perspective posits that the value of games lies not in the realities they create, but in the manner by which they shape our understanding of those realities. While these explanations do not offer a clear and systematic vision of the appropriate application of games to national security policy analysis, they are highly influential in shaping how gamers define the value of their work (Perla & McGrady, 2018).

Wargaming at the Turkish National Defense University: A Case Study

The tradition of wargaming in Türkiye is not a recent phenomenon, yet it remains relatively obscure. Given the absence of private sector interest in wargaming, there has been a concomitant growth in capacity within the context of military institutions (Havelsan JWTC, 2024, n.d.). It is challenging to identify experts on the subject outside of the National Defense University, and even there, the number is limited. The same can be said for Wargaming Research Centers or Laboratories. This is undoubtedly related to the lack of interest from the state and the lack of the private sector's need to market it to the state. Additionally, it can be evaluated in the context of the distant relationship between the military structure in Türkiye and civilians. Consequently, as civilian-military relations improve, the Wargame tradition may become a subject of civilian interest.

A review of the analytical tools employed in wargaming at the Turkish National Defense University reveals their extensive use, encompassing modeling and simulation support, workshops, and other forms of analysis. It can also be stated that a military exercise was conducted via simulation. By leveraging the expertise of those responsible for simulation and modeling within the institution, an organizational structure is established that closely resembles a real-world war environment (ÇMHM, 2023). During the war game, all participants are permitted to organize workshops, brainstorming meetings, or other forms of information exchange when they deem it necessary. It is notable that the majority of participants are military personnel who have previously participated in similar exercises, which may contribute to a perception that the war game is not as realistic as it could be.

In order to fully comprehend the elements of the wargame, it is essential to first examine the issue of the scenario in greater detail. As the scenario was obtained from NATO, it not only reflects the Turkish perspective to a limited extent but also provides participants with a rather outdated representation. The war is structured around a dichotomy of opposing countries, which can be conceptualised as allies of opposing moral standards. While unconventional and asymmetric interventions, including those of a cyber and economic nature, are introduced during the course of the wargame, the scenario nevertheless lacks the inclusion of “unforeseen causes” and “uncertainty.” For these reasons, it would be beneficial to update the scenario and, if feasible, align it more closely with the Turkish perspective. Additionally, the scenario’s numerous unrealistic elements and actors make it challenging to retain all the information and maintain focus on the game.

A key aspect of the human element of the wargame at the Turkish National Defense University is the considerable number of participants. While the latest versions of wargames can be played with as few as 10 people on a narrower subject-based basis, in this case, the participation of 250 military personnel may prove to be an inefficient use of resources (ÇMHM, 2023). Although the military order stipulates that each individual is assigned a specific role and is involved in the game in some capacity, the number of participants should be reassessed in order to enhance active involvement. Another issue is the limited diversity of participants, with a significant proportion being military personnel. In any case, even if it is not a realistic representation, the wargame must include political, bureaucratic, and civil society participants. Otherwise, collective action in a real war would be significantly impeded. While participation by political and bureaucratic figures may be challenging, particularly given their demanding schedules, it is essential to ensure their representation. Notably, there is a notable absence of civilian academics. This could be an opportunity to engage academics from other civilian universities in the country on a voluntary basis, offering them a valuable experience.

With regard to the rules and outcome orientation at the Turkish National Defense University, it can be observed that the game framework is characterized by a high degree of structure and a limited number of actions. This stands in contrast to a free game with many players and a high level of participation. The strict rules of the scenario influence player behavior and can impact outcomes by limiting the potential gains from the game. Given that an ambitious war game must be more competitive and force players to make challenging decisions, it is necessary to develop a scenario with more intricate rules that permit a greater range of behavioral options. Those privy to the eventual outcome may not require the same degree of cognitive effort to make challenging decisions. In the event of an uncertain outcome, a set of rules can facilitate more efficient participation. Additionally, the incorporation of repeated decisions can enhance the efficiency of the game. In the event of an erroneous decision that results in an unfavorable outcome, the alternative decision that is often preferred should be implemented, and the results should be made visible to all.

While the design and implementation of the game could be modified to be more active, to reinforce decision-making processes, and to determine the outcome according to actions and strategic thinking, the most crucial issue at the Turkish National Defense University that requires rethinking is related to the data obtained in the game. This is because the wargames, which are held annually with substantial participation from elite personnel, yield data that varies from year to year and reflects the expertise of these individuals. This data is then archived. However, the data in these archives lacks the capacity for further analysis and output. At most, it can be utilized for the following year’s games. However, a substantial repository of data on war games conducted over multiple years has been amassed in the archives. To develop concepts and insights, these data must be utilized by military and civilian academics and researchers. In this regard, ensuring authorized access to the data is crucial. The failure to leverage the potential of game data for scientific research represents a significant limitation of the wargame at the National Defense University.

It bears noting that, despite its shortcomings and limitations, the wargame at the Turkish National Defense University represents a significant opportunity for the advancement of military leadership development. It is possible to make observations regarding equipment, ideas, and organization. For instance, participants have the opportunity to refresh their knowledge of equipment, including the vast array of different combat and support equipment, as well as ammunition and other supplies

used to support combat operations and the defense of military forces and civilian infrastructure. Furthermore, in the context of modern and future warfare, observing the behavior of opposing teams, as well as one's own team, can significantly contribute to the development of intellectual capacity. This is achieved by experiencing the decisions that can be made in a crisis between two opponents. Ultimately, the game allows for the identification of organizational change styles that are more effective in addressing evolving crises and requirements throughout the course of the exercise. Additionally, it offers the opportunity to gain insights from discussions on emerging topics, such as the pivotal role of logistics in future warfare. This multifaceted contribution, encompassing equipment, intellectual, and organizational aspects, is a crucial aspect of military leadership development.

In addition to the aforementioned issues, it is also possible to enumerate the competencies that have been acquired in the context of contemporary warfare. For example, as the speed of planning, decision-making, and action increases due to the advent of hypersonic weapons, accelerated media cycles, and the integration of artificial intelligence at numerous operational levels, military leaders are coming to recognize the critical importance of effective time management. Such leaders recognize the value of the war of detection, in which the ability to detect and exploit enemy signals is of paramount importance in modern conflicts where stealth is a primary consideration. They may also gain insight into how to achieve a new equilibrium between large forces and small autonomous units, given the emergence of novel forms of mass in the context of modern warfare. In contrast to the counterinsurgencies of the previous two decades, there is a recognition of the necessity for a more integrated approach to thinking and action. This necessitates the development of military institutions that are capable of operating simultaneously across all domains and integration into broader national strategies. They comprehend the significance of human-machine integration, whereby robotics, big data, high-performance computing, and algorithms will be incorporated into military organizations in greater numbers to enhance human physical and cognitive capabilities, to generate greater mass, more lethal deterrent capabilities, and for faster decision-making and more effective integration. It can be argued that the evolving capability for the struggle for influence needs to be enhanced. This is particularly true given the advent of disruptive 21st-century technologies, which have increased the lethality of military forces at greater distances. Furthermore, these technologies have provided new technological means to target and influence diverse communities in an unprecedented way. Ultimately, the necessity for enhanced national resilience and sovereignty resilience can be incorporated into the military agenda. This entails the mobilization of populations to address significant military and national challenges, while concurrently developing secure sources of supply within national and alliance frameworks. This approach ensures that supply chains are not exploited as a means of exerting pressure by strategic competitors or potential adversaries.

It is imperative to examine the warfighting experience not only for its relevance to contemporary military operations but also for its potential applicability to future conflicts. This examination should encompass not only the practical aspects of military leadership but also the theoretical and pedagogical approaches employed by institutions to teach, practice, and continuously refine this leadership. It is here that we gain insight into the importance of refreshing professional core knowledge, developing communication and influencing skills, cultivating broad technological literacy, fostering creativity and curiosity, and nurturing adaptability—skills and capabilities that will be pivotal in future wars. For instance, the advancement of communication abilities must be a continuous process throughout the career of a military leader. The capacity to communicate orally and in writing, as well as to exert influence, must be cultivated through a multiplicity of experiences. The war game demonstrates the necessity of attaining this proficiency. It is imperative that military leaders recognize the significance of existing, emerging, and novel technologies utilized by or impacting the military domain. They must also prioritize continuous investment in technological education, literacy, and ethical standards. It is becoming increasingly evident that this specific requirement must be developed on an individual and collective basis. However, arguably the most crucial point is that, given the competitive nature of warfare and the brutal reality of modern conflicts, military leaders at the Turkish National Defense University are learning how to emerge victorious in the wargames. It is, therefore, incumbent upon military institutions to cultivate leaders who are adept at achieving victory while also demonstrating an understanding of the values and ethical frameworks that guide their institutions and the nation they serve.

Conclusion

The Turkish National Defense University represents one of the most significant institutions for military education in Türkiye. The wargames designed and implemented at this institution are also an invaluable opportunity for military leadership candidates to apply their knowledge and skills in a practical setting. Indeed, military personnel utilize the colloquialism “Today is the soldier’s holiday” to describe the period of war games. Given the practical nature of the military profession, it stands to reason that training exercises based on practical scenarios would enhance the sense of involvement and engagement among military personnel. Nevertheless, the most crucial ability and capability for a military leader is the capacity to make decisions. In this regard, wargaming exercises military leaders in the capacity to make the most optimal and efficacious decisions in situations of crisis. In this regard, wargames are as instrumental as other experiences such as military exercises. It is posited that wargames are more immersive in this regard, engendering the sensation of being an elite decision-maker, increasing the interaction between the participants and providing the players with the consequences of their own decisions.

Wargames are also being employed with increasing frequency by political science and international relations experts and researchers. In particular, they can facilitate a more profound comprehension of the decision-making processes inherent to the realms of security and foreign policy, particularly for those engaged in research within these domains. It is therefore of great importance to have access to and to be able to utilize data from previous wargames, including those conducted more recently. The methodology is as efficient as that of controlled experiments, such as surveys. Furthermore, it can provide insights into historical changes in behavior and decision-making processes. It can elucidate the influence of a pertinent historical factor on outcomes. It can facilitate the acquisition of insights into human behavior within a specific geopolitical context. In this regard, it can be regarded as a crucial methodology, not only for prediction but also for capturing the nuances of modern ecological reality. Consequently, war games can be defended as an innovative methodology for developing and testing theories of international relations in the context of limited real-world data.

In consideration of the prospective trajectory of wargaming, a few observations can be proffered, both with respect to military leadership education and social science research. To illustrate, firstly, it could facilitate a reinvention of how to address other challenges to external validity, including the narrowness of scenarios that determine the context of the game and the difficulty of representing the opponent. Secondly, researchers could investigate methods of incorporating virtual reality into war games, with a view to further enhancing external validity.

The advent of virtual reality in the field of political science is a recent phenomenon, yet it has the potential to serve as an invaluable tool for enhancing the ecological validity of war games. Third, researchers could focus on optimizing decision-making processes for the social sciences. Decision-making is the process of determining the outcomes of game activities. Game designers often determine how player actions interact with each other. Therefore, ways to increase participation in decision-making should be explored. Fourth, and related to this, future research could examine how wargames optimized for social scientific research should be designed differently from wargames optimized for experimental teaching. Those engaged in the design of war games may pursue different design choices than those engaged in academic examinations of the potential impact of cyber-attacks on the risk of nuclear use. The objective of the former may be to encourage players to consider the implications of conventional warfare escalating into nuclear use, whereas the latter is to examine the effects of cyber-attacks on the risk of nuclear use. Finally, the integration of wargaming and campaign analysis will become increasingly crucial in the future. In the context of wargames involving the interaction of military forces, decision-making frequently entails the application of more or less rigorous forms of campaign analysis. Campaign analysis is a methodology that employs a model and techniques for managing uncertainty to address questions pertaining to military operations. It is essential that all objectives be updated in accordance with these points.

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