

Author's Description
of Doctoral (PhD) Dissertation and its
Official Review

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**NATIONAL UNIVERSITY OF PUBLIC SERVICE
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**The Lessons Learned System of
the Hungarian Defence Forces and its
further development opportunities**

author's description of doctoral (PhD) dissertation and its official review

(THESIS)

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1. INTRODUCTION, PRESENTATION OF THE RELEVANCE OF THE TOPIC:

I have chosen as my research topic the empiria-oriented study of the Lessons Learned System of the Hungarian Defence Forces system and its further development possibilities. In many ways, the topic of experience processing is inextricably linked to almost all fields of military science, be it historical, military technology or some other field of military theory. The institutionalised, organised lessons learned of peace operations will lead us, through a more efficient training and education process that makes more targeted use of the various resources, to a more effective and efficient system than the one we have at present, resulting in a learning military organisation that is better adapted to its external and internal organisational and institutional environment and to the challenges of the future. The creation and maintenance of a constantly renewing and evolving military organisation capable of successfully responding to future security challenges is the basis of the nation's security guarantees. Learning from past experience is thus ultimately a factor of security and defence policy and national security importance. On the basis of my theoretical and practical knowledge and experience, I believe that by learning about the theories and practices of operational lessons learned of various international organisations, strategic cultures and military cultures, we can arrive at a domestic system of procedures and operational practices that can help the Hungarian armed forces to operate more effectively both independently and in cooperation with others. I believe that the exploration of the domestic operational lessons learned system and its relationship with the elements of the transformation system can help to develop a mechanism that can contribute to and improve the organisational learning capability and increase the effectiveness of the continuous adaptability.

The question arises: is lessons learned something new, or has there already been an institutional mechanism like this before? The concept is new in this form, but if we think about it, these are the processes that have been followed by military scientists. They have studied the crises, wars and battles of the past; they have studied the reasons for successes and possible failures, and they have tried to arrive at conclusions which they hoped and believed would make wars more successful in the future. As part of this process, theories on the inner workings of wars were developed by such notable theorists as Xenophon, Vegetius, Machiavelli, Frederick William I, Nicholas Zrínyi, Clausewitz, Jomini, and Moltke. Clausewitz explicitly stated in his work on war the importance and relevance of 'criticism' in revealing the inner causes of events. I believe that Clausewitz can in

fact be considered the pioneer of the modern lessons learned system of theories in war studies. In his work, he precisely articulates the levels, types, and methodologies of 'critique' and best practices, obviously within the conceptual framework appropriate to his own time. These great thinkers of the past have devoted their energies to formulating successful responses to the challenges of the age by lessons learned of the past. It was Clausewitz who saw the difference between military historiography and the lessons learned, or critique. ***"Critique is the deduction of cause from effect. It is the critical research proper, which is indispensable to theory, since only by means of it can all that is to be established, confirmed, or merely explained in theory by experience be clarified."***¹

A great initial example of Lessons Learned, critique, experimentation and finding best practices can be seen in Gilbert Roberts² who developed a significant methodology that we would now call lessons learned or *war-gaming*. In compiling this thesis, I will pay particular attention to clarifying the conceptual framework across all related fields. By exploring the diversity of meanings of institutionalised lessons learned and training, we will arrive at a more diversified, comprehensive and precise conceptual framework. The concepts associated with the development of the capital letter 'peacekeeping' have themselves been incorporated into our professional terminology in their historical evolution, with all its variety and imperfection. The different interpretations of the concepts related to peace operations are processed in Annexes 2 and 3 of the theses. The conceptual framework of experiential learning and the description of the theoretical definition and practice of the whole process of experiential institutional learning have provided the opportunity to explore and describe the general operational elements of the experiential learning system and its interfaces and interactions within the transformation system, in particular with operations and training. I have gained certainty that lessons learned does not exist in isolation, only and exclusively in relation to action.

In this paper, I will present in detail the results of an empirical survey on the subject, which examined the key factors of the functioning of the peace operation lessons learned system. As a result of the survey, the factors that most influence the lessons learned system were formulated, as well as a paradox that helped to shed light on why the operation of the systems is so difficult and

¹ Carl Von Clausewitz: On War, Zrínyi Kiadó, Budapest, 2013, p.137

² Gilbert Howland Roberts CBE Officer in the British Royal Navy

why many erroneous conclusions can be drawn. The conclusions and suggestions drawn from the research results are described as one of the practical outcomes of the thesis, which can be used to obtain a more workable lessons learned system.

In the main part of the thesis, I will present theoretical and practical approaches and examples of lessons learned used by international organisations and the Hungarian Defence Forces.

In this thesis I will present the institutional framework of the Hungarian Defence Forces and its development path, as well as its operational factors, shortcomings and development opportunities.

The findings of this thesis essentially create a new approach by identifying the interplay, interconnections and mechanisms of four basic (circular) processes of *organisational learning, transformation, lessons learned and training* feedback. By summarising the results, I will make proposals that can form a sustainable lesson learned system, complex in all its elements.

In this thesis I will examine the lessons learned procedures developed internationally and in the Hungarian Defence Forces, with which we can get closer to the laws of this process, the internal and external motivating factors.

The world has become extremely fast-paced, and military events can arise quickly. We can have information on almost anything instantly, with millions of sensors providing valuable data on many channels. We are close to real-time control of warfare.

In such circumstances, the collection and operational lessons learned and the incorporation of the results back into deployment, training and education should not take decades or years. The processing of my topic can help in this. That is, how we will be able to operate a lessons learned system that can apply the acquired knowledge, knowledge elements and experiences in the most efficient and quickest way for transformation, and thus for the institutional development of the military organization.

2. FORMULATING THE RESEARCH PROBLEM

1. The peacekeeping role of the Hungarian Defence Forces has become one of the most dynamically developing and experienced areas of the complex task system of the armed forces. The effective use of the experience gained in the transformation processes of the organisation is of paramount importance.

2. The experience gained so far in peace operations applications has had a major impact on the development of the armed forces. In the transformation of the training system of the Hungarian Defence Forces, the needs of the Allies and the experience gained in peace operations played a decisive role. However, the databases of operational experience do not reveal the origins of the experiences that triggered the changes.
3. In order to make the future Hungarian Defence Forces more effective, it is important to harmonise the system used for processing (peace operation) experience with the training system and to define its role in the higher transformation system, primarily with a view to the development and effective further development of the Hungarian Defence Forces as a whole and its individual subsystems.
4. There are a number of international institutions with crisis response (and within that, peace operations) experience that employ specific organisational subsystems, organisations or academic research institutions to process their operational experience in a scientific, inter- and multidisciplinary manner. Is it possible to identify an international example to follow or to develop an effective institutional system of its own for processing and exploiting operational experience?
5. Looking at international practice, we can draw important and useful conclusions based on an information-processing cycle that is based on a more effective integration of elements of lessons learned than before. This theme is closely linked to the modernisation of armed forces and the scientific planning of their transformation; the development of the systems of rules and operational mechanisms for their deployment, as well as the leadership and management subsystems for training and preparation and their institutionalisation, the transformation and the organisational learning processes.
6. By analysing the international examples from our own point of view, empirically oriented, and by examining the possibilities of transforming and further developing the domestic system, it is possible to develop proposals that can serve both the development and improvement of our allied role and our operational capabilities.

3. THE RESEARCH OBJECTIVES

The main aim of the dissertation was to identify the principles, laws, methods and processes that help us to understand, explore and shape the collection of our operational experience, its processing and incorporation into the transformation system, so that it becomes part of the institutional development system and military culture.

In line with this basic idea, I have formulated six objectives:

1. To examine the theoretical underpinnings of Lessons Learned. To examine the theoretical basis of the lessons learned practices of national and international organisations (NATO, EU, UN), to identify the operational differences by exploring their possible differences.
2. Examine the lessons learned systems of international organisations (UN, EU, NATO) and examples of their implementation in order to highlight similarities and key differences.
3. To explore the internal mechanisms of the Hungarian Defence Forces' peace operation lessons learned system, its shortcomings, by conducting empirical research through questionnaires, which will lead to conclusions that will provide the basis for formulating recommendations to increase the system's operational efficiency.
4. To examine the relationship between the MH lessons learned system, training and transformation and to propose a process to ensure the learning of the military institution and to create institutional memory and foster the building of institutional culture.
5. To examine and present the diversity of conceptual frameworks related to peace operations in international organisations, in national literature, and in strategic and public law documents.
6. To formulate proposals for the transformation and improvement of the institutionalised lessons learned system of the Hungarian Defence Forces, which forms an integral part of both organisational learning, transformation and elements of the training system.

4. HYPOTHESES

The research is based on the following hypotheses:

1. The theoretical underpinnings of modern institutionalised lessons learned are not uniform internationally and domestically. The theoretical grounding has a significant impact on the functioning of lessons learned.
2. The lessons learned management systems of international organisations (UN, EU, NATO) are implemented through knowledge management practices built on processes specific to the learning organisation. The methodology and focus of the collection, analysis and evaluation of data and information within peace operations experience management systems, as well as the focal points of the operational mechanisms developed, depend essentially on the international or regional organisation within which the experience management system operates.
3. The operational lessons learned system and its results, as well as empirically validated theories, are part of the transformational system, its constantly evolving content and thus part of institutional memory and institutional culture.
4. The Hungarian Defence Forces also have their own system of lessons learned, which, however, has different emphases in several respects, and which is designed to collect, analyse and evaluate Hungarian operational experience gained during international peace operations. The Hungarian Army's operational lessons learned observation collection mechanism does not provide the necessary quantity and quality of data for successful processing and thus learning from experience.
5. The lessons learned system of the Hungarian Defence Forces is a crucial part of the transformation system of the HDF.
6. The methodology of the systems approach to training ensures the direct integration of operational experience into the training system and thereby creates the basis for organisational learning processes, which has implications for the system of transformation.
7. Commanders have a key role to play in the successful operation of the HDF lessons learned system.
8. The terminology related to peace operations is not uniform in the UN, OSCE, NATO, EU terminology systems, which may lead to misunderstandings in several aspects, resulting in operational planning discrepancies and even serious problems during implementation - therefore, it is necessary to review the uniform interpretation of the concepts and describe their historical and evolutionary processes.

9. In my view, there is an urgent need to develop the elements of leadership, management and organisational structures and operational effectiveness of the Hungarian Defence Forces, by planning the development of the force structure, the deployment rules and regulations, and the elements of leadership, management and organisational structures dealing with training, education and preparation. This requires a rethinking of the expectations of the Hungarian LL system and a scientific examination of its practical implementation.

5. RESEARCH METHODS TO SUPPORT THE RESEARCH OBJECTIVE

- To study the relevant literature (strategic documents, studies, analyses, publications), both national (in Hungarian) and international (mainly in English and German);
- To provide a comparative analysis of the concepts related to peace operations in the case of international and regional security organisations and institutions (mainly NATO, UN, EU, OSCE, UN, UN, OSCE) - exploring the possible causes and consequences of the differences between organisations and institutions.
- Document analysis, secondary analysis of statistical data with own perspective, content analysis;
- Primary analysis and processing of statistical data based on own empirical research results;
- Organisational sociological institutional analysis using document and organisational analysis (NATO, UN, EU, OSCE);
- A comparative critical analysis of the key documents of the TAFE system of the Hungarian Defence Forces and an exploration of its operational mechanisms in the context of international peace operations³ .
- Empirical survey research on the experiences of the use of the Hungarian LL in the field of peace operations, on the possibilities to identify and identify the problems encountered and to gain scientific insight into them - mainly in order to identify the obstacles to the collection and lessons learned observations at individual, group, organisational and institutional level.

³ 18/965 Lessons Learned Manual, Hungarian Defence Forces Operations Centre, 2010

- Conducting in-depth interviews with representatives of the armed forces of the countries concerned on the subject of international operational experience.
- Theoretical studies, comparisons in the international arena in the context of the training of forces, the creation of doctrines, training and force planning management systems,
- Conducting in-depth interviews with experts in the field of domestic peacebuilding experiences.
- To analyse the training system and present its elements, I conducted institutional and documentary analyses as well as in-depth interviews, both nationally and internationally. To gain a better understanding of the topic, I have completed three courses on a systems approach to training and on the introduction and application of quality assurance.
- As the commander of the Hungarian Defence Forces, Peace Support Training Centre and during 20 years of service in peacekeeping training, I have gained my own experience in the development of peace operations training. As a national and international accredited trainer, I have implemented a number of innovative proposals and concepts in this field, including the processing and transfer of experience in peace operations.

6. STRUCTURE OF THE THESIS

1. The dissertation contains eleven chapters, including the introduction, and nine appendices. The dissertation concludes with a list of the literature used. In the introduction, the research problems, objectives, hypotheses and research methods are summarised, in addition to the relevance of the chosen topic.

2. In the second chapter, I summarise the three dominant approaches to the development of the scientific background that has underpinned the theoretical development of modern institutionalised Lessons Learned. In this chapter, I elaborated on the findings related to the field of 'critique' in Carl von Clausewitz's On War. In the chapter, I have summarized for the first time in Hungarian the theory of decision making created by John Boyd⁴, which is considered the guiding theory of lessons learned in Hungary⁵. In the chapter I have been given the theoretical foundation

⁴ <http://www.aviation-history.com/airmen/boyd.htm>, 03.04.2018 downloaded

⁵ Hungarian Defence Forces Lessons Learned Manual, Hungarian Defence Forces Operations Centre, Budapest, 2010. p 6

of the organizational learning, learning - organizational relationship, which can be described by Chris Argyris's one- and double- loop learning processes. The theoretical underpinnings of the learning organization are seen as the guiding principles for international organizations such as NATO, UN, EU to build their own lessons learned systems.

3. In the third chapter, I will introduce the UN's knowledge management and organisational learning system in the context of the UN and Lessons Learned. In this chapter, I present the most influential recent investigative report, titled *"Improving Security of United Nations Peacekeepers: we need to change the way we are doing business"*⁶. The report was authored by retired Lieutenant General Carlos Alberto dos Santos Cruz⁷, who himself has faced the security challenges addressed in the report on several occasions.

4. In the fourth chapter, I present the European Union, the system for operational lessons learned, its developmental stages and its operating mechanism. Among the practical experiences of EU peace operations, the lessons learned reports of EUFOR RD CONGO and EUNAVFOR Atalanta missions in Somalia.

5. In chapter five, I discussed NATO's operational lessons learned system. I introduced the actors of NATO LL and analysed the detailed process description of lessons learned. One of the best examples of the presentation of operational LL support, which has been the most prominent in this chapter, is the processing of analyses and lessons learned from NATO's engagement in Afghanistan (ISAF).⁸ Between 11 August 2003 and 2021, NATO has conducted more than 36 LL investigations at the strategic level. The NATO JALLC sent so-called project teams to the area of operations to collect data from observations, debriefings, interviews and analysis of reports. From their final reports, I will describe two cases in more detail, in order to illustrate the complex responses to the emergence of the challenge and its impact on the evolution of organisational culture and ultimately warfare. These two areas are now known as Protection of Civilians and Attack the Network operations.

⁶ Lieutenant General Carlos Alberto dos Santos Cruz: *Improving Security of United Nations Peacekeepers: We need to Change the way are doing business*, New York, 2017.

⁷ Retired Lieutenant General **Carlos Alberto dos Santos Cruz**, former Commander of MINUSTAH HAITI and MONUSCO, Republic of Congo, UN Peacekeeping Force, currently Advisor to the Brazilian Ministry of Justice and Public Security, has over 45 years of national and international security sector and military experience. I interviewed him in person at the IAPTC conference in Auckland in October 2018.

⁸ 15 years of the JALLC, NATO, Joint Analysis and Lessons Learned Centre, 2017. Lisbon, Portugal p.50

6. In the sixth chapter I will present the operational lessons learned system of the Hungarian Defence Forces and the peace operations experience exercise. I analysed the theoretical and policy framework of the Hungarian peace operation lessons learned system and conducted investigations on the operation and use of the related databases, the results of which are summarised in this chapter. The unique and innovative solution of the HDF PSTC for the processing and management of operational experience related to peace operations and peace operations training was presented.

7. In chapter seven, I present all the important Hungarian contributions to peace operations that are relevant for the analysis and findings of the research. I have grouped the peace operation contributions in such a way that those belonging to leading international organisations are analysed as a unit. An analysis of the lessons learned from the respective missions is also included in this chapter.

8. The eighth chapter contains the results of the survey on the effectiveness of the Hungarian Defence Forces' operational lessons learned system in the context of peace operations, with analyses, tables and conclusions.

9. The ninth chapter contains an introduction to transformation as an adaptive capability of military systems. Transformation is described as a higher level of operation that encompasses the operational lessons learned system. The chapter also includes a description of the structure and operating procedures of the HDF Transformation Command, the transformation organisation of the Hungarian Armed Forces.

10. Chapter ten covers the role of lessons learned in training and transformation. The chapter is devoted to an examination of the systematic approach to training and the relationship between lessons learned and the results. In the summary section of the chapter, the relationship between transformation, training and operational patch processing is specifically analysed.

11. The eleventh chapter contains the summary, a description of how the research objectives were met, a confirmation or refutation of the hypotheses, a list of new research findings, suggestions, recommendations and possible applications.

12. Chapter Twelve contains the 9 annexes:

Annex 12.1: Victims of Hungarian peacekeeping

Annex 12.2: Conceptual approach to peace operations

Annex 12.3: Concepts related to peace operations in strategies and doctrines

Annex 12.4: TRADOC organisation chart

Annex 12.5: Research questionnaire

Annex 12.6: Survey figures on the functioning and results of the Hungarian Defence Forces' operational lessons learned system in the context of peace operations

Annex 12.7: List of abbreviations

Annex 12.8: List of figures

Annex 12.9: Publication list

7. MEETING THE RESEARCH OBJECTIVES

The main aim of the dissertation was to identify the principles, laws, methods and processes that help us to understand, explore and shape the collection of our operational experience, its processing and incorporation into the transformation system, so that it becomes part of the institutional development system and military culture.

1. The **first objective of the** research was fulfilled by examining the emergence and development of the analytical grounding of Lessons Learned. I have analysed the development of the theoretical underpinnings of lessons learned in domestic and international organisations and highlighted the operational differences by exploring the different factors. While compiling this dissertation, while researching the background theories of lessons learned systems, I was confronted with the fact that Jon Boyd's OODA loop theory, referred to by Hungarian regulators, is not exactly about institutional lessons learned. I revisited Clausewitz to examine the theoretical underpinnings of the military. Clausewitz, in his own terms, which I have tried to present using his language, has written about the experience of the past and what its elements and risks are. The OODA loop and Jon Boyd's examination of it further strengthened in me the premise that the Lessons Learned is part of a larger more complex system. The theory of the OODA loop had not been presented in Hungarian before. The OODA loop theory taught me about the paradox of experience and the "hammer man" syndrome, which I used extensively throughout this dissertation. Thus, the learning organization, the approach to organizational learning described by Argyris and Schön, was added to the set of background theories, and it was in the light of this that I became

aware that the phenomenon I was studying was worth approaching from this perspective. Following the approach of the "learning organisation theory", it became even more striking during the research that the mapping and collection of experiences should be treated as a separate field of investigation, since it could be crucial in the later course of the research to find out how motivations and driving forces can arise and how they can work in individuals, small sub-units, sub-units, units, so that they can be successful.

2. The **second** objective was achieved by examining the lessons learned systems of international organisations (UN, EU, NATO) and examples of their implementation in order to show the similarities and key differences. Processing the practices of international organisations and presenting examples confirmed the previous research finding that organisational learning and its variant specific to the military organisation, transformation, is one of the main keys to the process I have studied.

3. The **third** objective was achieved by describing and analysing the interdependent processes of the transformation system, the training system and the lessons learned system. One of the major achievements of the research is the harmonisation of a transformation and adaptation system that fits the (peace) operational lessons learned system and a training procedure system based on a new systems approach. This dissertation examines in detail and analyses the elements and process of the above-mentioned form of training approach.

4. In order to achieve the **fourth** objective, I conducted a questionnaire-based empirical research, which helped to identify the current operational characteristics of the Hungarian Defence Forces' peace operations lessons learned system and led to the identification of several gaps within the internal mechanism. The results led me to the conclusions that allowed me to formulate recommendations to overcome the operational difficulties I identified in the system. The results of the research have been validated on a theoretical level, while practical validation is still awaited, which may be one of the results of the practical application of the thesis.

5. The **fifth** objective was fulfilled by the analysis summarised in Annexes 12.2 and 12.3, in which I present the diversity of conceptual systems related to peace operations and the international organisations implementing them, and point out the differences, their causes and possible risks identified in international and domestic literature, strategic and public law documents, and in the examination and analysis of practical activities. I have shown and analysed that the evolution of the concept of 'peacekeeping' in all its capital letters, and the changes in its form, have brought

many new concepts into the professional public consciousness. I have used organisational references and linked the conceptual underpinnings and systems to the specific organisation. I explored, described and based on the results of comparative analysis, examined the international experience of military lessons learned and its conceptual framework and its approach, which seems adaptable to the modern Hungarian Defence Forces.

6. In order to achieve the **sixth** objective, I formulated my findings and recommendations for the transformation and improvement of the institutionalised lessons learned system of the Hungarian Defence Forces, which are integrated with the elements of organisational learning, transformation and training system. In order to achieve this research objective, I have reviewed, in the form of a critical comparative analysis, the international and domestic academic writings and documents that have examined the beginnings and major stages of Hungarian peace operations, and have attempted to collect, systematise, analyse and evaluate the operational experiences related to them.

8. VALIDATION OF THE RESEARCH HYPOTHESES

1. My 1st research hypothesis was as follows: 'The theoretical underpinnings of modern institutionalised experiential processing are not uniform internationally and domestically. The theoretical grounding has a significant impact on the effective functioning of Lessons Learned.'

In order to prove my first hypothesis, I conducted a comparative analysis of international examples of institutionalised lessons learned based on a literature review, which showed that the EU, NATO and the UN can be considered as a common starting point for the theoretical background of the "learning organisation". The background theory of domestic lessons learned is, at the level of reference, John Boyd's OODA loop theory, but in parts it uses elements of the NATO organisational learning model. My first hypothesis **is confirmed accordingly**. Drawing on my research, I have shown that there is no uniform theoretical grounding between domestic and international systems of lessons learned and that many conclusions can be drawn from this fact. This is one of the reasons why the domestic lessons learned system is not able to embed itself in organisational learning processes and thus cannot fulfil its role in transformation. With regard to domestic lessons learned, it may be added that, due to the lack

of a real theoretical basis, no internal mechanism for building an organisational culture has been developed and the application of the system has been declared a bureaucratic obligation. It is precisely in this respect that effectiveness is questionable.

2. According to my 2nd research hypothesis: *"The lessons learned systems of international organisations (UN, EU, NATO) are implemented in the practice of knowledge management built on learning organisation-specific processes. The methodology and emphasis of data and information collection, analysis and evaluation within peace operations lessons learned systems, as well as the focal points of the operational mechanisms developed, depend fundamentally on the international or regional organisation within which the lessons learned system operates."*

Based on my research findings, I have shown that the UN has developed one of the most modern and comprehensive organisational learning environments in the world today through the development of its lessons learned, knowledge management system. The use of tacit knowledge-sharing platforms and modern computing support, the use of artificial intelligence, all show that the field, long ripe for reform, has reached a stage of change and development by 2020 that has not only eliminated previous shortcomings but also managed to make a technological leap.

Based on the results of my research, I have shown that the EU's lessons learned system for peace operations and crisis response operations has been confronted from the very beginning with the fact that if the EU wishes to participate in military and civil peace operations for a longer period of time and mainly on its own, it is necessary to develop an organisational memory and learning process that creates an organisational culture and can effectively support the development of peace operations. In EU CSDP missions and in civilian crisis response operations, the process of learning from experience has evolved as a result of separate processes. Subsequently, the EU LL began to reinterpret the background theory of organisational learning processes into the one- and double-loop learning cycles described by Argyris and Schön for its own activities. By 2011, the mechanisms taken over from NATO had achieved harmonious interaction with both the overall NATO-EU and the UN lessons learned systems (the process described in the EUFOR RD CONGO operation presented in this thesis offers an illustration of this).

Based on my research results, I have demonstrated that NATO has built up an adequate theoretical-scientific background and an efficient, institutionalised lessons learned system for processing its operational experience. Strategic directives and command documents are highly coherent. NATO has paid and continues to pay great attention to the fact that the functioning of the TAFE system is highly dependent on the mind-set and the command's commitment and transparency. In this respect, mind-set is in itself a defined military behaviour, which requires participants to be open, courageous, and critical of their own and others' actions, while at the same time being confident and believing in progress. The role of commanders can be seen in the examples presented. NATO's TAFE system is based on the commander, and the role of the commander is central to the TAFE process.

The second hypothesis is partially supported, in that the institutionalised lessons learned mechanisms of the EU and NATO are very similar. In particular, I highlighted that the EU has adopted elements of the NATO TAFE system. The UN, however, has pioneered a major innovation with its Knowledge Management System 2020. With the new methodology, in addition to the previously well-established large-volume test materials, the channelling and analysis of smaller, simpler reports has been addressed. The use of tacit knowledge sharing platforms is a completely new element in the operation of the TAFE system. My second hypothesis is accordingly **confirmed**.

3. Based on my **3rd research** hypothesis: *"The operational-experiential-processing system and its results, as well as empirically validated theories, are part of the transformational system, its constantly evolving content and thus part of institutional memory and institutional culture."*

Drawing on a literature review, I have examined the defining features of the relationship between transformation and the institutionalised lessons learned system of operational experience, and have shown, that, although the results of operational experience are essentially used directly as part of the training system, they are also taken into account in the operation of the transformation system and can then feedback through the organisational learning process (through the dissemination of modified or generated organisational knowledge) to the structure and operation of the training system. Based on my research, I have shown, using examples, how the results of the operational lessons learned have an impact directly in the training system

(where they appear in the knowledge base, which is used to disseminate knowledge within the organisation) and how they are incorporated into organisational knowledge and culture through the change of actions, using the training system. My research has shown how this method ensures the development and consolidation of appropriate controlled knowledge within military organisations. My third hypothesis is accordingly **confirmed**.

4. According to my 4th research hypothesis: *"The Hungarian Defence Forces also have their own lessons learned system, which, however, in several respects has different emphases in order to collect, analyse and evaluate Hungarian operational experiences in international peace operations. The Hungarian Defence Forces' operational experience observation collection mechanism does not provide the necessary quantity and quality of data for successful processing and thus learning from experience."*

Drawing on theoretical and empirical research, I have shown that the HDF LL regulators are basically perfect - except that they lack adequate background theory and do not generate sufficient relevant evaluable observations (in my view, the total of 75 peace operation records in the available databases is insufficient to produce a change of sufficient quality in terms of creating a learning organization, especially if this total is generated over 12 years). I have shown that observations are almost exclusively expected from those involved in the operations, creating the personnel and organizational framework for it. I have also pointed out, on the basis of my findings, that the system is often expected to detect factors that it has not indicated in advance in any respect, but that it just does not want to do so (at least not in sufficient quantity and quality). **I verified** this hypothesis in the light of the known Central LL database and research. I will discuss possible solutions in more detail in the "Proposals" chapter.

5. According to my 5th research hypothesis: *"The lessons learned system of the Hungarian Defence Forces is a decisive part of the transformation system of the HDF."*

Drawing on my research, I have shown that transformation provides an effective response to the challenges of the present and the future, in processes of organisational learning informed by past (continuous) experience, driven by future challenges and generated by innovation (technological progress, new processes). I have pointed out that the lessons learned departments and divisions are the decisive components of the transformation organisations of

the Hungarian Defence Forces. These organisations operate the databases, participate in operational planning and carry out the continuous workflow of Lessons Learned. **From this organisational point of view, the hypothesis can be considered valid.**

Based on my findings, I have pointed out that:

- in terms of internal functioning, we are currently unable to say what the direct link is between organisational, doctrinal and training development on the one hand, and the building and functioning of the experience base and tacit knowledge base on the other
- the use of a database in this respect does not necessarily provide guidance, and the reverse is also true, in that changes do not reflect back to baseline experience
- is not yet fully embedded in the transformation system, given its current operational characteristics.

From this point of view, this hypothesis cannot be confirmed.

6. According to my 6th research hypothesis: *"The methodology of a systems approach to training ensures the direct integration of operational experience into the training system and thereby creates the basis for organisational learning processes that have implications for the system of transformation. The concept and methodology of the System Approach to Training (SAT) successfully ensures the integration of operational experience into the training system. The systematic approach to training is a generally accepted practice, principle and methodology for incorporating proven operational experience."*

Based on my research results, I proved this hypothesis by examining approaches and practices aimed at the systematic, direct incorporation of contemporary Hungarian operational experience into the training system, with particular emphasis on the training needs assessment phase of the analysis:

- A comparison is made between the capabilities to be achieved and existing capabilities in the training requirements, and
- The development of training to address capability gaps will develop the content of the training.
- To further support this hypothesis, I have shown, based on my research results, that the transformational system is the higher-order link between operational experience and

training, and that it is the internal mechanism of transformation that creates the opportunity, or even the constraint, for the operational experience to be used by the training system.

- Based on my research results, I have analysed and demonstrated how the processes of the transformation system can guarantee that the results of operational experience can be reflected in the knowledge base, regulations, guidelines, lectures, exercises, which can be used by the training system to achieve training objectives.

Furthermore, based on my research, I have also shown and proven that:

- a methodological approach to quality assurance in the application of training in the context of the MAQA can guarantee the continuous institutional development of training.
- if the training is carried out in accordance with the phases of the MAQA and the appropriate internal and external control processes are implemented, the outcome of the training is guaranteed.

I have examined how it is possible and appropriate to process the results of quantitative and qualitative data collection during the follow-up studies. My sixth hypothesis was **confirmed accordingly**.

7. Based on my 7th research hypothesis: "*Commanders play a key role in the successful operation of the HDF lessons learned system.*"

In order to test this research hypothesis, I conducted an empirical online questionnaire survey (web survey) among soldiers still undergoing mission training at home and those already serving in a mission abroad. Analysing the responses of nearly 500 soldiers who voluntarily filled in the questionnaire anonymously, and examining the justification of my sixth research hypothesis, I concluded that "*First and foremost, the **commander** must inspire his staff to make observations in general and on specific factors and **provide organised opportunities for sharing them in groups and sub-units.** If, in the planning, execution and evaluation of tasks, the commander expects activities typical of the TAFE observation life cycle, sooner or later they will become the organisation's own. Without action there is no experience, no learning and no change in action. It also follows from this principle that every action must be accompanied by lessons learned by the commander. The commander is the one who identifies the factors he considers important for the success of the mission, which must be monitored according to a central strategy (defined by the commander). Commanders who rely on*

spontaneous observations during the activity lose the initiative that characterises the learning organisation and ultimately lose the opportunity for improvement."

Based on my research findings, I have shown and proven that **the role of the commander is prominent in the Lessons Learned and the building of an explicit and tacit knowledge base, and thus in the enrichment of organizational culture.** My seventh hypothesis is accordingly **confirmed.**

8. According to my **8th** research hypothesis: *"The terminology related to peace operations is not uniform across the UN, OSCE, NATO, EU terminology systems, which may lead to misunderstandings in several aspects, and consequently to operational planning discrepancies and even serious problems during implementation - therefore, it is necessary to review the uniform interpretation of the concepts in a comparative study of their historical and evolutionary development."*

In order to prove the validity of the hypothesis, I examined, analysed and evaluated the conceptual frameworks, the historical organisational approach and their representation in Hungarian public law, strategic, doctrinal and regulatory documents, using a new conceptual processing method.

Based on the analysis of key concepts, I have identified the main trends in the development of crisis management, international crisis management, peace operations, peacekeeping, the main developments in the activities of the international organisations covered by our topic, and the cornerstones of the development of the conceptual framework and the divergences between them.

The general and official use of the term "peace operation" was clarified by the UN in 2019. My eighth hypothesis **is confirmed** accordingly.

9. According to my **9th research** hypothesis: *"In my opinion, there is an urgent need to develop the elements of leadership, management and organisational structures and to increase their operational efficiency by planning the development of the armed forces, developing the rules of engagement, and developing the elements of leadership, management and organisational structures dealing with training, education and preparation for the Hungarian Defence*

Forces. This requires a rethinking of the expectations of the Hungarian TAFE system and a scientific examination of its practical implementation."

The validity of this hypothesis is supported not only by my own theoretical and empirical research results, but also by the fact that recently this process has started, and the ones outlined in my hypothesis have begun to be established. In 2016, when I started the research, there was no institutionalized transformation organization in the Hungarian Defence Forces. The functioning of some elements of transformation, such as lessons learned, training, doctrine and policy development, certainly existed, but not within a coherent structural framework and transformation as a higher order of functioning had not emerged.

The concept "*Concept - The Transformation in the Hungarian Defence Forces*" was published in 2018 by the Defence Forces Planning Directorate, in which the functional relationship of the existing organisational elements with the transformation was established. In terms of the organisational framework, the Transformation Department of the Force Planning Directorate was the first organisation to be dedicated to spearheading the process.

It had to wait until 2020 for the establishment of the HDF Transformation Command, presented in this thesis, which already contains many of the elements of transformation.

The results of my research and the operational experience of the recently established organisation have shown conclusively that the workflow corresponding to each of the cogs in the flowchart must be successfully operated in order to complete the transformation "machine", and therefore the mission of the HDF TC and thus its organisational structure must be further expanded. Aligning the operational elements of the transformation "machinery", further building and refining the transformation-driven functioning of organisations, in the light of internal experience, is essential in an ever-changing environment. My ninth hypothesis **is accordingly confirmed.**

9. NEW RESEARCH RESULTS

1. By reviewing the relevant international and national literature, I was the first to present the appropriate linkages between organisational learning, transformation, institutionalised lessons learned and training. In the research, I explored the close relationship between organizational

learning and transformation, as well as the desirable interfaces between operational lessons learned and training.

2. I have demonstrated that the results of operational experiences are part of the training system and that the mediating framework is found in transformation, organizational learning processes and the application of the System Approach to Training.
3. I have conducted an empirical questionnaire survey on user satisfaction with the Hungarian TAFE system, the results of which are presented in the dissertation. I have explored the results, shortcomings, and determining elements of the internal mechanisms of the operational TAFE system of the MH, and I have formulated recommendations for a more effective operation of the system.
4. I consider as a collateral result of the research that we have succeeded in formulating the "paradox of experience" that is evident in lessons learned and that is also shown in the OODA loop theory. The existence of this phenomenon and its distorting effect on the quality of observations and experiences seems to be further confirmed by this research. The functioning of the "paradox of experience" and the demonstration of its mechanism of action may be the subject of further investigation.

10. SUGGESTIONS, RECOMMENDATIONS

One of the objectives of the research was to help formulate recommendations that would guarantee the effective collection and processing of peace operation (and through this, operational) experiences at a systemic level, thus facilitating the learning processes of the organisation and enriching the organisational culture. The topics covered have shown that the Operation-Experience-Training-Operation process under study can be described by the circular process of organisational learning and transformation. Its defining elements are the operations, (application) operational experience, the training requirements and needs that constitute the training input system, and the interacting system of institutions that implement and training control. Based on these, I have grouped the recommendations around four main areas for improvement, which are: - strengthening the characteristics of the learning organisation, - designing and improving all elements of the transformation process chain, - increasing the effectiveness of the peace (operational) lessons learned system and applying the System Approach to Training model. Each

of the four sets of proposals focuses on the capabilities specific to the military organisation and the environment required to create them. The development of organisational learning enablers is mostly a command task. What other conditions are needed to achieve these factors may be the subject of further research.

11. PRACTICAL APPLICABILITY OF THE RESEARCH RESULTS

The Hungarian Defence Forces have all the elements of organisational learning. It has everything at its disposal to be a truly effective learning organisation. It has the organisational and theoretical background to apply the two-loop and three-loop methods of organisational learning. The internal logic of the lessons learned system is world class, and the proposals in this area are set out in a separate chapter. The Hungarian Defence Forces can and has adapted to its tasks and, in retrospect, has successfully overcome obstacles because its officers are creative, broadly trained and used to performing their tasks within limits. The Hungarian Defence Forces' involvement in peacetime operations, its adaptation to peacetime requirements and the operational experience it has acquired provide the organisation with a good basis for improving its processes. The operational engagement of the Hungarian Defence Forces is a real success story, with all its difficulties and pitfalls. The organisation, even if it is not traceable in the LL databases, has learned from the experiences that have been gained. The need for organisational learning and the development and learning driven by personal ambition builds organisational memory and culture. The phenomenon that the Hungarian Defence Forces have been able to operate successfully to such a high standard in almost unknown areas (in tasks never before performed) can only mean that they have an elementary instinct for 'Learning by Doing' and experimentation that always gets them through challenging times. How this instinctive adaptability is developed and what factors influence its functioning would require further investigation. The process of building an organisational culture is not over, nor have the previous organisational culture shifts been completed in all areas, but it does show the characteristics of a constantly evolving organisation with ever greater capabilities. The organizational learning frameworks presented in this dissertation, the transformation that further enhances adaptability, and the rooting of transformation in Hungarian military thinking, and the resulting organizational elements, will provide new momentum and experience. And if the

elements of the organisational learning processes continue to develop at this pace, this development will become self-developing and self-sustaining, feeding back into itself.

As a result of the research, a Hungarian systemic transformation and training mechanism will be identified and further developed, which can provide effective assistance in processing our peace operation experiences and successfully planning our future missions. The novelty of this research lies in the fact that it examines existing systems and the expectations of the peace operations environment in an international comparison, and that it takes into account the Hungarian circumstances, environment and organisational culture. It attaches great importance to conceptual clarifications and definitions. It explores and, in accordance with the results of research, expands the understanding of background theories and moves from an understanding of the internal interrelationship system of lessons learned to higher-level theories of organisational learning and transformation. In the process, it elaborates on the relevant theories of Clausewitz, Jon Boyd, Argyris and draws conclusions on the impact of the development of working practice systems and their impact on the training system. It reveals that a systems approach to training is the theoretical framework (in practice in a number of locations) that results in a training system capable of utilizing and serving the goals of transformation, the results of operational experience, and the needs of military capability. The results of this research lead to recommendations that will help to further develop the transformation system of the Hungarian Armed Forces and to develop the characteristics of a learning organization. Based on the proposals, the Hungarian operational LL system will be placed in the transformation system and a new approach to the role of its documents in the higher system will be possible.

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13. AUTHOR'S PUBLICATIONS RELATED TO THE THESIS TOPIC

The publication		
Title, name, year and number of the journal or publication	language	Participation rate
Peacekeeping Training in the Hungarian Defence Forces, in Crisis Response in the UN NPU, in booklet 2016	Hungarian	100
The conceptual basics of peace operations (Part I), in <i>Army Review</i> Volume XV, Issue 2, 2017, April-June pp. 70-83.	Hungarian	100
The conceptual basics of peace operations (Part II), in <i>Army Review</i> Vol.XV, Issue 3-4, July-November 2017, pp.68-81	Hungarian	100
Military Basics / Defence Basics – Chapter IX. Peace Support Operations, in Military Basics textbook, Zrínyi	Hungarian	100
The OODA Loop I, in <i>Army Review</i> XVI Volume, 1 Issue 1, 2018, January-March pp. 143-159	Hungarian	100
The OODA Loop II., in <i>Army Review</i> XVI Volume 2 Issue 2, 2018, pp 155-168.	Hungarian	100
Training for Peace, Zrínyi 2018. (book)	Hungarian-English (mirror)	100
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Their mission is to train peacekeepers, <i>Defence Review</i> (2021)	English	100

Presenting papers at scientific conferences:
The role of the HDF in the first line defence of the border, experiences, Szeged 2017.03.21-23, Hungarian
LL conference: renewing the LL system, HDF PSTC experiences, Budapest 2018.02.27, Hungarian
XXI century conference: On the implementation of the survey on the operation and results of the Hungarian Defence Forces' operational lessons learned system in the context of peace operations, Budapest, NPU 2019, Hungarian
The role of HDF PSTC in distance learning Budapest, 2017.05.21, English

14. AUTHOR'S CV IN TEXT FORMAT

The author was born in Eger in 1971. He continued his secondary school studies at the Lenkey János Military College No. 1 and the Machine and Instrument Engineering Technical College in Eger. He received his military education at the Kossuth Lajos Military College, Mechanized Infantry Faculty, Szentendre, in 1992. In 2001 he graduated from the Zrínyi Miklós National Defence University, as Security and Defence Policy Expert, in 2001. He wrote his diploma thesis on different forms of peace operations. Graduated from the National University of Public Service, Flag Officer Course in 2011. He was admitted to the Doctoral School of Military Science at the National University of Public Service in 2016.

He has an advanced level in English and German, and a STANAG 3333 certificate. In the performance of his duties, he has attended courses at home and abroad, including the NATO Peace Support Operations, Mission Training Organisation and Leadership Course in Germany; the UN Mission Training Officer Course in Bangkok; the Israel Defence Forces, International Liaison Officer Course in Tel Aviv; the UN Integrated Mission Training Officer (Civilian and Military) Course in Tallinn.

He started his service as a platoon commander at the 26th Bottyán János Mechanized Infantry Brigade (Lenti), then he held the positions of company commander and staff officer at the 34th Bercsényi László Reconnaissance Battalion (Szolnok), and the 88th Air Mobile Battalion (Szolnok). First in the 1st Light Mixed Regiment of the HDF, and later in the HDF Peace Support Training Centre, he spent 20 years in peacekeeping training (Szolnok). Served as Deputy Commander of the 5. Bocskai István Infantry Brigade in Debrecen, then from 2015 he was also the Brigade's Deputy Commander and Garrison Commander in Hódmezővásárhely. Since July 2019, HDF National Liaison Representative, Head of Representation at NATO ACT Norfolk Command. Accomplished 4 missions, in 1997, he was the Commander of the UNFICYP Hungarian Contingent, 4 Sector 1 Company, 1st Platoon, Louroujina, Cyprus. In 2003, was the Commander of SFOR - Multinational Specialized Unit, HUNCON, HDF Military Police Contingent, Bosnia and Herzegovina. In 2008, He served as the Liaison Officer of the Multinational Force and Observer (MFO) Liaison Group, El Gorah, Egypt. In 2011 and 2012, had a position of the Military Advisor to the EUFOR ALTHEA Commander in Sarajevo, Bosnia and Herzegovina.

He has held the rank of Colonel since 15 March 2015. During his service he has been decorated 12 times.

He is married with three children, and in his spare time he enjoys fishing and building his own winery.