

KNOWLEDGE NEEDS OF FINAL YEAR STUDENTS WITH FOCUS ON MILITARY LOGISTICS

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***Abstract:** This paper underlines the results of a survey about the knowledge and knowledge needs of final year students and graduates of University of Defence. The aim of the study is to compare final year students knowledge needs before they are sent out to short military attachment in the various units of the Czech Armed Forces. General Logistics Assessment Test is a set of testing instruments used to assess the acquired knowledge of students about commercial and military logistics, Informational System of Logistics and language skills. The findings are based on empirical study and show the most important role of specific knowledge needs, especially in the military field of logistics.*

***Keywords:** knowledge, knowledge capital, military logistics.*

1. INTRODUCTION

Knowledge capital and its development have consequences on educational streams and knowledge dimensions. Knowledge capital and knowledge production in contemporary educational processes are reflected in the production phase as well as in the practice phase. Knowledge creation, channels, distribution e.g. between producers and users is mainly important for better understanding of nowadays knowledge needs of university students, especially in case of final year students.

The paper has an immediate relevance in the current debate on the knowledge needs and practical experiences of final year students (bachelors and masters) within two directions – to achieve goals in transformation conditions of defence sector and armed forces and to identify factors of knowledge development, improvement and transfer. Knowledge plays a key role in the economic relationships on the local as well as on the global level. Stevenson (2002) highlighted the path chosen in professional education, and education generally, to concentrate on dynamic economic conditions involving education area.

Knowledge organizations, as it is the case of universities, are found in the new position – enquiry requirements are changing quickly and they require reaction. Better understanding of current knowledge needs is one of the most important objectives of present knowledge organizations. Orientation towards knowledge capital building becomes a factor of knowledge maximization. OECD (2000) highlights that national and regional governments will be influenced by trends and developments in knowledge-intensive industries and professions and will be focused on the relationship between different forms of capital.

This is related to transformational processes in the Armed Forces in Romania – transformational processes understood as a whole, as a perpetual one, as processes of adaptation (Năstase, Nicolae, 2006; Udrescu, Bădălan, 2010; Surugiu, 2012) - with respect to new conditions for logistic branch. Korecki et al. (2010) examined processes and needs of military logistics in terms of EU and foreign operations (Korecki and Pomazalová (a) (b) (c); Pomazalová, Korecki and Darkwah, 2010).

2. RELATED THEORY AND WORKS

Knowledge capital and capitalization (Stewart, 1997, McPhail, 2008) of any society is pursued within the framework of the intention of knowledge society (Drucker, 1992, McPhail, 2008), learning society (OECD, 2000), knowledge economy (Burton-Jones, 1999) and knowledge management (Zack, McKeen, and Singh, 2009). In the new conditions of impact of informational and knowledge growth and in the context of transformational societal processes, knowledge production was developed also in universities. Because it is more likely to understand universities as knowledge organizations, knowledge management approaches start to play a key role in achieving goals. Liebowitz and Megbolugbe (2003) view knowledge management as a set of tools that managed ways for leverage knowledge internally and externally. In order to better understand how to share and manage knowledge, a knowledge framework should first be developed within the following lines.

According to OECD (2000) it is possible to identify sources of hypotheses regarding the interaction of social and knowledge capital in educational institutions (OECD, 2008). Knowledge capital is a theme discussed in particular within the conceptions of knowledge needs (Heisig et al., 2010). Knowledge capital in universities is a present studied phenomenon in the context of socio-economic changes. For the identification of knowledge capital due to the specificities of societal and organizational conditions – individual and collective knowledge capital mobilization is about to capture the individual dimensions of the approach mentioned. Knowledge capital description of universities is based on the characteristics of the community in educational processes. Involving actors in contract networks is one of the elementary presumptions for effectiveness knowledge production.

In knowledge capital literature different approaches to define knowledge, knowledge capital and knowledge system are overviewed. According to Nesta (2008) knowledge is considered homogeneous and that, as a

consequence, firm knowledge capital equals with the sum of homogeneous pieces of knowledge. This is possible to use as an analogy to military organization. Niessen (1999) features knowledge capital as a commonly discussed factor of no less importance than the traditional economic inputs of labor and finance. For example Quaddus and Xu (2005) further emphasize knowledge system as key for knowledge creation and production.

Knowledge needs in Heisig's survey (Heisig et al., 2010) are oriented on engineering and engineering community. Knowledge and information needs are categorized in this study as 'need to retrieve' and 'need to capture' and both two categories do not represent truly novel knowledge and information needs, as both are already addressed in engineering practice. The conclusion of the survey is that no absolute novel knowledge and information needs emerged from the second question regarding 'needs to capture'.

Stevenson (2002) focused on constitutes workplace knowledge and appropriate ways for it to be learned are dynamic and subject to powerful societal forces. He emphasized that there is a polarization of what is considered to be vocational for class of workers or related to work (e.g. professionals), from those life pursuits that are the subject of general, academic, or theoretical knowledge. According to his findings, knowledge for work has historically been seen as a "second-best" kind of knowledge, concerned with utility: the material, the practical, the technical, and the routine. It brings a wide impact for educational organizations as universities. Stevenson showed professionals, whose practice is aimed at a collective motive and mediated by artifacts, rules, responsibilities, and a community of practice. He also argued that there is one type of knowledge (e.g. theoretical knowledge) for academic or professional work that is qualitatively different from the kind of knowledge needed for vocational activities. This theory could be used in the system of foreign mission preparation and accomplishment.

3. RESEARCH APPROACH

The aim of the paper is to contribute to the discussion of knowledge needs of military logistic students as future military professionals in military logistic system. The main used method is analogy. To achieve this objective, a problem of knowledge needs in comparison to knowledge achieved in bachelor and master degrees is employed. Used materials are findings of research conducted at the University of Defence of the Czech Republic (Korecki and Pomazalová, 2010). In this study students knowledge in selected areas was tested - acquired knowledge of the students about commercial and military logistics, Informational System of Logistics and language skills. Test was provided before students are sent out to short military attachment in the various units of the Czech Armed Forces. . The research was answered logistics graduates enrolled in the University of Defence between academic years 2004/2005 and 2008/2009.

4. RESULTS AND DISCUSSION

Korecki and Pomazalová (2010) examined knowledge needs of final year students and required knowledge according to evaluation test. They found that need of commercial logistics degreed, contrasting military logistics

from increased, the known of Logistics Information System increased and also language skills little bit increased. As milestones were set in the periods between first short term attachment and three/one year in practical assessment. Trend line represents regular growth of military logistics knowledge. Columns stand for 3rd and 4th period which have to be considered as important milestones, were not compared with the following year's figures. Trend curve represents growth of military logistics knowledge. Obvious absence of period 3 and 4 comes from the fact that these students started their practical career just after Bachelor exams.

Based on these findings is possible to use neo-Thorndikian theory. De Corte (1999) solid the problem of transfer of knowledge requires discernment of identical elements between learning and application situations according this theoretical framework. He emphasised that the new identical elements are to be found in declarative and procedural knowledge that is confirmed in the described case. Comparison of findings shows differences in knowledge needs (Heisig et al, 2010) between bachelor and masters graduates. It brings necessity of reinforcing knowledge sharing between Ministry of Defence and responsible institutions (Military Universities and logistic praxis at units) in the logistic branch (cf. Strain and Preece, 1999).

Table 1: Human Science contribution to Integrated Logistic Support (ISL). Source: Strain, Preece (1999)

ILS component	Human Factors aspects	Relevant contributions from Human Sciences
Use study	Identifying characteristics of intended users in operational environment	Characteristics of intended users in a Target Audience Description
Design optimization	Identifying characteristics of operational environment	Assessment of health hazards in operational environment
	Establish training requirements of design options	Early training capability requirements of design options
Through-life costing	Identify maintenance requirements to meet required availability	Early estimates of personnel required for maintenance in each option
	Manning, personnel and training costs	Skill categories of personnel relevant to costing
Maintenance task design	Design of maintenance tasks	Design of maintainer tasks
Support equipment procurement	Equipments required for operational support	Operator and maintainer tasks associated with support equipments
	Trainer equipment procurement	Human performance capabilities required to be developed by training equipments and trainee assessment methods
Training needs analysis	<i>Much overlap with the training domain of HFI and with the discipline of Training Needs Analysis which is often presented separately from both Integrated Logistic Support and HFI requirements</i>	<i>Considered separately under the discipline of Training Needs Analysis</i>

Strengthen of knowledge capability brings potential for development of military logistics capability as a whole. It is known that knowledge needs changes, therefore the educational policy (OECD, 2008) to achieve better educational and practice results is established through a specialized study programme. According to findings of this study it is shown that short military attachment contributes to development of knowledge and identification of individual knowledge needs and it should be related to work of Stevenson (2002).

Instrument and methods of knowledge management established for knowledge producers in specific conditions of defence sector for achieving common goals and maximize knowledge production. Modification of knowledge system (comp. Quaddus and Xu, 2004) that consist of information about staff which improve organizations' ability to identify people with needed skills and knowledge, information about providers and end-users which help logistic organization to support and serve them, information about methodologies and tools which allow organizations to deliver quality and consistent service in an efficient and effective manner, and information about practices and groups which keep everyone in organization up-to-date at anytime and anywhere. Information technology is only one element of the logistics management system.

Through analogy to described knowledge status Lehtonen and Karjalainen (2008) discussed the problem of the employers' definitions of good language skills in their work, where they revised that professionals also work in settings, that these settings function as activity systems, and that activity within these settings is multiply mediated and knowledge is related to the activities of their practice. It seems to be also a crucial implication in the study of Korecki and Pomazalová (2010).

In Romania, this issue is not highly approached at the level of scientific research. Some authors, like Ilie (2007), consider the adjustment of integrated logistic support to the

specific of Romanian Army necessary, as long as the full implementation of an already functional system is not efficient.

The problem of theoretical knowledge and practical skills development and practice is a matter of military training activities. Strain and Preece (1999) focused on Integrated Logistic Support. According to them, the United Kingdom Ministry of Defence identified the need to avoid effort across Integrated Logistic Support and Human Factors Integration (Table 1). The main aim in this case was to optimize logistic policies/practices in order to generate the most effective use of staff in the support area. These authors emphasized staffing across both operational and support areas to achieve operational goals. They discussed the need of Project management in military system procurement. It represents a very important part of logistics activities in foreign operations (Korecki et al., 2010; Korecki and Pomazalová (b), 2009, Korecki, Pomazalová and Dvořák, 2010). The procurement activities seemed to be very important for achieving goals and for development if knowledge especially in the logistics branch.

According to the results of research (Strain and Preece, 1999; Korecki et al. (2010) Korecki and Pomazalová, 2010; Pomazalová, Korecki and Darkwah, 2010) the main role in the knowledge needs nowadays are activities connected with logistics support, especially with Reception Standing Onward Movement, procurement activities for better achieving of operational goals based on tasks and objectives. They seem to be more important in the military logistics branch than activities based on commercial logistics principles. It is based on the sense of military organization and management and military logistics. Because for military professionals is necessary to implement their knowledge in multinational surrounding, here is clear the need of language development and skills in the information and communication technologies is also based on the community of practice (Stevenson, 2000). In the logistics branch is possible to apply neo-Thorndikian theory (De Corte, 1999) and human science (Strain and Preece, 1999).

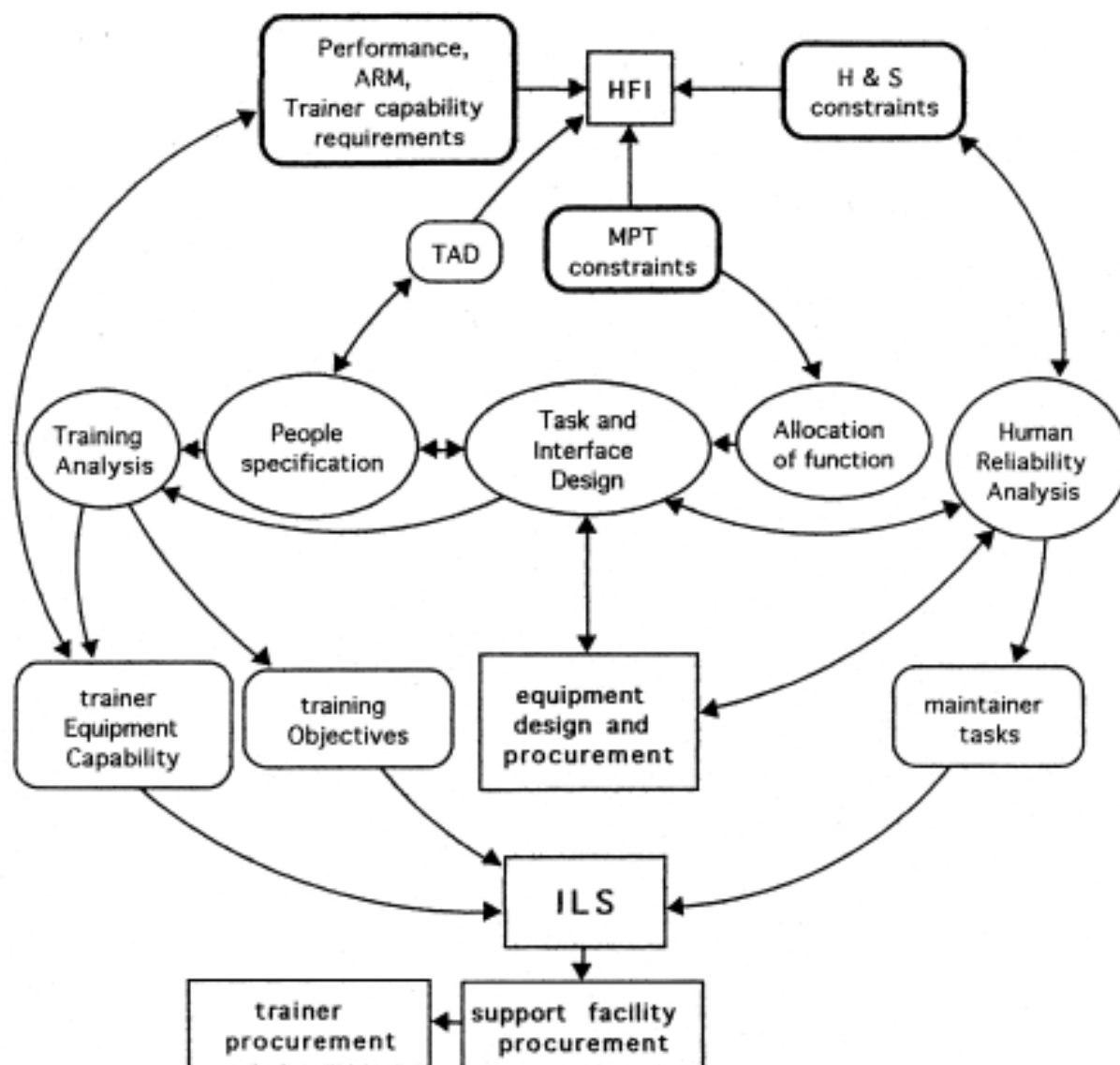


Fig. 1. Human Factors Integration constraints, activities and data set by Strain and Preece. Source: Strain and Preece, 1999

4. RESULTS AND DISCUSSION

The permanent deficient in human resources and inability to predict initial military appointment of the graduates decreases the University of Defence ability to systematically manage and adjust study programs and just in time/just enough time short term attachment according to concept of lifelong learning and training in the knowledge era via e-learning or knowledge management technologies. The possible way is description of complex logistic processes in the foreign operations for saving internal costs, improving activity realization and increasing of job security and also knowledge management

tools preparation (Korecki and Pomazalová, 2010).

Knowledge capital literature highlights that enterprise and organization efficiency is involved in socio-cultural capability of the enterprise or organization and ability to reduce costs and preformatted benefits and positive effects of knowledge. Knowledge capital usage and membership graduates in knowledge networks create linkages based on shared knowledge. The density of knowledge network is based on cognitive ability and decision-making process of graduates. The relevance in the current debate on the knowledge needs and practical experiences of final year students is also based on new

transformational conditions of defence sector. In this respect, in Romania the curriculum has been revised in order to offer the opportunity of developing a knowledge network, more precisely, to align the educational approaches according to the Major Staff needs and expectations, to increase practical character of military education, to focus on the realities of the modern battlefields (Frunzeti, 2010; Lesenciuc, 2011).

Knowledge relationships in the frame of knowledge networks of university, government (Ministry of Defence) and Armed Forces may grow up as ad hoc students, graduates and military professional as practitioners in teams to linkage ties to building reciprocal knowledge advantage in the stream of knowledge management system. Knowledge position of the final year students and graduates may be better institutionalised in knowledge networks to support military tasks. Achieved results bring the necessarily growth of military logistic knowledge needs of the logistic students and also suggestions for educational process improvements with contribution of Human Science (Strain and Preece, 1999).

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