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## **IDENTIFICATION OF LEARNING NEEDS IN INTERDISCIPLINARY EDUCATION**

### **Abstract:**

Evaluation of the work, requirements for the performance of work activities belong to the starting factors of monitoring and identifying needs of education. Job requirements and the performance of work activities at workplace are often connected with the requirements for knowledge, skills and experience in other fields than the qualification requirements defined for the job performance. When providing medical care, the main role is played by the medical personnel: doctors, nurses, pharmacists, and other workers, who perform demanding and responsible jobs in the course of citizen health protection. Doctors do their jobs in various types of medical facilities and are situated in various functional and job positions. These facts influence the requirements for skills, economic knowledge and financial literacy, which is not required for the medical job performance. Graduates from medical branches, except for employment relation, can perform the medical job based on defined permissions, licences, and in the implementation of freelance job. A doctor is becoming an entrepreneur and frequently has to master numerous administrative and economic activities. Graduates in medical/doctoral study programmes proceed after successful performance of medical practice/clinical practice to managerial positions on line, middle but also top levels in health facilities. The job performance necessitates also demands on knowledge and skills of managerial and economic disciplines, which represent a supplement to defined requirements for the job performance.

### **Keywords:**

education, doctoral study program, managerial position, economic and financial literacy, performance of economic activities, needs for education

**JEL Classification:** I15, I21, I22

## 1 Introduction

Work and work performance is a crucial criterion, for which individuals are recruited in organizations. Job position and its description, demands on the work performance at workplace, work conditions, importance of the job position in the hierarchy of jobs, requirements placed on an employee performing work at the job are basic personnel activities, linked to other personnel activities. There are numerous personnel activities in organizations, ranging from: planning, recruitment and selection of employees, concluding contracts for employment, conducting personnel agenda, securing the equality of opportunities in the light of valid international and domestic legislative documents, distributing employees; securing suitable working relationships and work conditions, employee healthcare and job security, adherence to legislation enforced, implementation of collective negotiations, evaluation of work performance, work-out of remuneration system (whose task is to stimulate performance); supporting willingness to work, and closing with the support of the interest in permanent increasing qualification, professional and personality requirements of individuals for work performance.

Evaluation of the work, requirements for the performance of work activities belong to the starting factors of monitoring and identifying needs of education. Job requirements and the performance of work activities at workplace are often connected with the requirements for knowledge, skills and experience in other fields than the qualification requirements defined for the job performance. When providing medical care, the main role is played by the medical personnel: doctors, nurses, pharmacists, and other workers, who perform demanding and responsible jobs in the course of citizen health protection. Doctors do their jobs in various types of medical facilities and are situated in various functional and job positions. These facts influence the requirements for skills, economic knowledge and financial literacy, which is not required for the medical job performance. Graduates from medical branches, except for employment relation, can perform the medical job based on defined permissions, licences, and in the implementation of freelance job. A doctor is becoming an entrepreneur and frequently has to master numerous administrative and economic activities. Graduates in medical/doctoral study programmes proceed after successful performance of medical practice/clinical practice to managerial positions on line, middle but also top levels in health facilities. The job performance necessitates also demands on knowledge and skills of managerial and economic disciplines, which represent a supplement to defined requirements for the job performance.

Pursuant to The Government Regulation No. 322/2006 Coll. No. 4, there are characterised specialization fields of study designed for the management and organization health sector within further education. Specialization study in Public Health Management – Master of Public Health requires a minimum experience of three years from the conclusion of the second cycle of university study, concluded employment with a

health organization or in public health. Alternatively, a person concerned may be involved in the protection, support, and development of public health or has a contract of employment concluded with the provider of health care, or holds a licence or permission of the operation of health facility. The regulation of the SR Government No. 379/2015, of 9 December 2015, amending and supplementing the SR Government regulation No. 296/2010 Coll. On professional aptitude for the performance of employment in health services, manner of further education of health service workers, set of specialization fields, and the set of certified work activities subsequently amended, specifying the requirements for managing and organizational practice.

Health service is a sector of the economy which has an important role in securing citizen health protection. The right to health is one of essential human rights; it is connected with the right to life, which is part of constitutions of democratic nations. In order to increase the efficiency of the Slovak health services, the Government formulates reform objectives, namely within the National Reform Programme, which is the main strategic document of the SR Government in the area of economic development and structural policies. During the implementation of research project VEGA No. 1/0309/18 Social Networks in Human Resources Management, our intention is to present opinions of a selected sample of respondents gained in the course of empirical research into the needs for developing economic knowledge and business skills of graduates in Doctor of Medicine study programmes. More and more community websites are being created in the Internet, including social networks, which allow for a wide-ranging discussion and have been used to identify learning needs.

## **2 Theoretical background of identification of education needs**

Work activity is work focused on satisfying existential needs and has to make economic sense and have some aim. Work activity is the most important of all activities carried out by an individual. From a psychological aspect, work activity may be defined as a specifically conscious human activity, which is directed at satisfying existential and socio-psychological needs (Franke, Kühlmann, 1990).

The understanding of the internal content and structure of work activity is possible via analysis by particular criteria, namely:

- Classification of work activities according to occupations/professions;
- Share of physical and mental requirements on the performance of work activity (Štikař, Rymeš, Riegel, Hoskovec, 2003);
- A complex nature of work activity;
- Possibility of analysing work activity into stages;
- Speed of mastering the work activity, etc.

Analysis of work activity deals with identifying requirements of work activity per an employee. Its interdisciplinary nature is determined by a complex character of the subject under investigation, diverse intentions, purposes of the analysis, and consequently also the diverse ways of applying its results in personnel work, in particular in developing stimulation systems and also in identifying educational needs, and subsequent planning and designing education.

The present-day life in human resource management (HRM) area in the course of implementation of separate personnel activities and in the implementation of further Professional education and the development of employee competences requires to continue in analytical tasks, and thus standardise qualification and other requirements for the work performance. The most important instrument for monitoring the labour market in the Slovak Republic is the National classification SK ISCO-08 as a key means of communication for exchanging information between labour market participants. Via combination with other indicators, it is possible to find out a demographic composition, regional distribution, educational structure, and the like. Without these data, members of sector councils, which are the heart of the National System of Occupations, could make an informed choice concerning the number and structure of guaranteed job standards (Dítětová, 2016). The starting information basis in designing the National System of Occupations (NSO), in particular in the course of designing its basic instrument of Employment Register represents the Integrated System of Type Positions (ISTP). The Integrated System of Type Positions (ISTP) is a freely accessible Internet application providing a transparent system of the most recent information about the labour market. The main objective of ISTP is creating a suitable link of the information about the labour market requirements with applicants' personal qualities and providing assistance in looking for employment. A basic instrument of the Integrated System of Type Positions is the File of Type Positions (Trexima, KTP, 2009). It is a database of job positions on the Slovak labour market, which currently contains over 2,000 cards with a detailed description, which are arranged into 43 work areas. Individual cards provide detailed information about job position (e.g. about qualification and personality requirements, gross monthly wages by regions in the SR, job vacancies and the like. (Trexima, 2016). Tasks of the "Integrated System of Type Positions" ensued from the Government Manifesto of the Slovak Republic (SR) and further national and European documents.

The internet page of the Integrated System of Type Positions ([www.istp.sk](http://www.istp.sk)) has been developing since the year 2003 (Dítětová, 2011).

The Integrated System of Type Positions in its original structure consisted form:

- Files of Type Positions (FTP) – The File of Type Positions, which includes requirements for the completion of working out and improvement of branch qualification catalogues.

- Job Catalogue (JC) – Catalogue of jobs, which helps enterprise entities in working out job descriptions.
- Analyses of an individual's potential (AIP) – In this analysis, an individual is provided with personal characteristic based on input data. It enables job seekers to gain guidance in the selection of employment; it shows possibilities on the labour market, or offers suitable educational activities and necessary qualification.

Within the Integrated System of Type Positions and later called Internet Manual to the Labour Market (ISTP), there are at present the following main instruments at disposal:

- Job vacancies. There is a database of job vacancies consisting of
  - background data of offices for employment, social affairs and family,
  - further work portals and
  - employers who can advertise jobs for free.
- Work compass, where job seekers or those needing advice on the choice of school, complete a series of questionnaires, creating in this way their personal profiles.
- Job file is a database with detailed descriptions of jobs on the Slovak labour market, in which employers defined their requirements for qualification, personality requirements and other demands placed on potential employees.
- Counselling is part of the Internet manual of the labour market. Links of the counselling part of this instrument will be possible also by its technical pairing of the existing portal of the Central Office of Labour, Social Affairs and Family – Internet Manual to the Labour Market (ISTP). (Act No. 5/2004 Coll. on employment services and on changes and supplements to some laws in the wording of later regulations is specified in §12 scope of operation of the Central Office of Labour, Social Affairs and Family. The Internet manual to the labour market is a set of information for an effective communication on the labour market. The operator is the Central Office of Labour, Social Affairs and Family and the mediator is an ISTP team – TREXIMA Bratislava, s.r.o ([http://www.istp.sk/kto\\_sa\\_podiela\\_na\\_istp.pph](http://www.istp.sk/kto_sa_podiela_na_istp.pph)). A job applicant looks up a job vacancy on the labour market, learns from it which part of their qualifications is missing for the performance of the job, and the system looks up an educational offer with regard to regional, time and price availability of the education concerned. Via the information system of further education, more detailed information about education programmes is provided. (<https://www.istp.sk/sluzby-zamestnanosti/kategoria/10/Sluzby-zamestnanosti>. [cited 1.7. 2013])

Not only the integrated system of type positions, but also other work portals set out human resource requirements and are important for identifying learning needs.

The most visited work portals are:

- Profesia.sk
- Kariera.sk
- Job.sk
- LinkedIn.com
- Pozripracu.sk
- Bratislava.virtualne.sk
- Top-prace.sk
- Pracovne-ponuky.eu

It is necessary to mention foreign working portals:

- Pracujvrakusku.sk
- Injoy.sk
- pracavonku.sk
- pracazahranicie.eu
- Universalconsulting.sk and others.

Results presented in this paper were obtained for the purpose of this research project. On the other hand, however, we are aware of the need for comparing the findings acquired with other existing data.

### **3 Methodological basis of empirical research**

The research on data acquisition for the subsequent identification of the educational needs of graduates of non-economic healthcare professionals in the fields of economic development, managerial and entrepreneurial skills has been very extensive. Therefore, its comprehensive results, opinion surveys and the resulting conclusions cannot be explained in full in this article.

They capture the opinions of selected respondents (selected graduates of Doctor of Medicine study programmes) who, while performing health care, have become aware of the needs of knowledge and skills in the area of economics, management and entrepreneurial skills. The focus is on methods that are appropriate and applicable to gathering relevant data to analyze and identify the needs and interest in education that supports the economic knowledge and business skills of graduates of non-economic medical study disciplines.

Respondents were managers in health facilities, owners and performers of private medical practice in health care. The actual number of respondents is 113, namely, 58 of those who perform liberal profession; 55 respondents are employees in health facilities and work there in managerial positions. Selected health facilities operate on the territory of the Slovak Republic; they are classified into outpatient health care facilities and are presented largely by outpatient clinics of hospitals and institutional health care facilities, where the key role was played by hospitals. The structure of health facilities / establishments was diverse, ranging from large hospitals, but also smaller health care establishments, outpatient clinics of hospitals, which provide some limited areas of health care and health services to private doctors in outpatient departments.

The aim of research was to capture a wide spectrum of professionals' opinions on given problems. Results of research presented relate to Section Q – Health and Social Assistance, according to statistic Classification of economic activities SK NACE Rev. 2 pursuant to by-law 306/2007 Coll. For the purposes of analysis, human resources were selected from the following two divisions:

- 86 – Health services and
- 87 – Residential care.

For the implementation of the research, human resources were selected based on a working relationship in health organizations or performing private health care business.

We focused on the graduates of the selected medical study programmes that are specified in Table 1.

**Table 1: Selected medical fields of study**

Fields of study	Study programmes
7.1.1 General medicine	General medicine
7.2.1 Dental medicine	Dental medicine
4.1.1 Physics	Bio-medical physics
7.1.1 General medicine	

*Source: Fields of study – Health Services. Available at: [www.portalvs.sk/sk/studijne-odbory](http://www.portalvs.sk/sk/studijne-odbory)*

Each respondent was considered as one statistical unit, which was the basis for the application of selected statistical methods, and these, in turn, will enable us to evaluate the problems analysed.

## 4 Research results

The total of 113 respondents were involved in the research, of which 58 were freelancers and 55 were those who were employed on a labour-law basis and were in management positions in healthcare facilities. Both groups of doctors (physicians) are also required,

apart from the requirements for the performance of health care which are standardized (<http://www.istp.sk>), to have knowledge and skills in economics, management, legislation, and other disciplines, which result from the fulfilment of the necessary work activities. We will present their views on the situation in several tables.

Under the questionnaire survey, respondents had to evaluate themselves the achieved level of basic administrative knowledge and skills, as indicated in Table 2.

**Table 2: Level of acquired basic administrative knowledge and skills in absolute expression**

Administrative knowledge and skills	Number of respondents with given knowledge and skills	Acquired level of knowledge and skills		
		low	average	high
Service of office equipment (PC, printer, copy machine, fax)	113	-	-	113
Work in MS Office (Word, Excel, Outlook etc.)	90	17	34	39
Working with Web	98	13	46	39
Work with medical software	83	-	79	4
Telephone and e-mail communication	111	1	10	100
Commercial correspondence	19	2	15	2
Invoicing	15	15	-	-
E-orders	57	48	9	-
Public procurement	0	0	0	0

*Source: results of empirical research*

The subject of our interest is doctors who perform either management functions in healthcare facilities or those in private practice, which also depends on the length of the medical profession and the achievement of certain results in the provision of medical care. The data in Tab. 2 are the views of respondents who represent senior employees in health care, which will also influence the views in Table 3.

For the sake of clarity, we also comment on the need for education in relation to economic and managerial activities.

Given the different needs in the use of economic knowledge and entrepreneurial skills of doctors – managers and doctors – entrepreneurs, we have divided the analysis into two groups. This naturally results in different educational needs. In order to identify needs for education, the basic starting point is the real need of the person who performs the given work activities.



**Table 3: Need for economic and financial literacy in the performance of medical practice**

Economic and financial literacy in economic areas	Performance of economic activities		Needs for education	
	Doctors performing managerial function (55 resp.)	Doctors performing private business (58 resp.)	For the performance of managerial function (55 resp.)	For the performance of private business (58 resp.)
Costs, prices, calculations	13	35	39	48
Budgeting	43	3	49	7
Accountancy	0	37	0	54
Taxation	0	19	0	49
Insurance	0	3	0	18
Financial planning	5	4	7	2
Strategic Planning	21	2	51	4
Purchase Planning	3	4	3	7
Control activity	25	6	39	8
Financing Health Services in the SR	47	49	19	17
Legislative and legal forms of doing business in health services	2	9	7	19
Marketing	0	39	5	54

Source: results of own research

The research carried out and Table 3 indicates that doctors – managers need, in particular, the knowledge of strategic planning, budgeting, control activities and cost, pricing, and calculation. Doctors – entrepreneurs would prefer marketing, accounting, tax, and cost, pricing and calculating training. It should be noted, however, that doctors' views have shown that these are very demanding areas of education for physicians as they have not been exposed to this kind of knowledge yet. Consequently, they think that they are only able to acquire basic and general knowledge that will not be sufficient to perform all administrative and economic activities to be provided in connection with private business.

## 5 Conclusion

The paper is based on inputs and outputs of practical research, from discussions with experts working not only in human resources management, as well as with staff of

educational institutions. Within faculties focusing on medical science abroad, departments are created which provide education in the fields of economics, management, and development of financial literacy, entrepreneurial and legal knowledge and skills. In the field of medical foreign study programmes, it is common practice to divide the study into the preclinical study and the clinical study starting in the fifth term/semester. As early as the fifth term, differentiation of studies takes place as follows:

- orientation to hospital medicine – preparation for medical practice in clinical practice;
- orientation to research in medicine – acquiring knowledge and skills for research activities;
- orientation to outpatient medicine – preparation for medical practice in an outpatient department (Friedrich –Schiller Universität Jena).

Further, the orientation of the study is reflected in the offer of subjects and practice in healthcare facilities. In this case, the representation of economic subjects is the most numerous in the third orientation of the study, and it is in outpatient medicine, where the entire one semester is dedicated to the legal and business basis of an outpatient doctor.

Gradually, the number of people interested in supplementary economic education is rising, securing thus the development of economic knowledge, financial literacy and entrepreneurial skills, which are at the centre of attention of numerous doctors – entrepreneurs.

In order to prepare educational activities, many educational institutions should use social networks in the future. Social networks are a means of communicating with customers and allowing them to adapt to their needs.

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