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"Current Issues, Trends, and New Ideas in Education"

Towards the Study of Professional Corporate Education in Terms of Its Thematic Focus and Outcomes

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Abstract

Aim: The aim of the paper is to characterize how the time for training employees in individual thematic areas is related to the outcomes and changes, facilitated by individual educational activities. *Methods:* The questionnaire method and interviewing methods were applied for obtaining data from respondents. The starting-point of empirical research was the knowledge and needs of the company, which perceives education as an investment. The respondent sample included 370 lectors/instructors and managers from three countries. The research was conducted in selected companies of section C − Manufacturing, Statistical Classification of Economic Activities. Basic variables include the number of training hours and results of the changes after training activities. Three groups of employee education are analysed: general training, performance-oriented training and digital training. *Findings:* Our division of educational activities into three groups enables the fulfilment of the basic European Commission targets for the 2021−2027 programme. *Recommendations:* Invest in developing new skills through future corporate training in the context of innovative transformation of the economy for a smarter Europe. Create conditions for better utilisation of human potential by eliminating the discrepancy between offered and required skills. *Novelty of the paper:* international comparison of educational activities, focus on the smart Europe and transformation to Industry 4.0.

Keywords:

Adult Education; Educational Needs; Employee Training; General Training; Further Professional Education; Performance-Oriented Training; Digital Training; Slovak Republic; Czech Republic; Hellenic Republic.

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1- Introduction

The research paper is a response to the current European Commission calls for the 2021–2027 policy program, which is directed at the intelligent transformation of economies and knowledge economy development. The development of new technologies and techniques promotes and increases adult education needs for learning, including those of corporate education. Companies are no longer capable of meeting the needs for qualified staff merely from the new graduates from schools or idle human resources on the labor market. A well-tried solution to the problem is further professional education for employees. Companies are increasingly searching for the means and ways of securing their employees' education in the best possible way and at the smallest possible cost. Intelligent transformation includes the knowledge, skills, and competences of human resources, which are the focus of our research paper. The macroeconomic results of

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EU countries are evaluated by the European Commission and published in reports, which often contain statements about some European countries that lag behind in key areas for future growth. (On February 27, 2019, the Report of Slovakia 2019 was released by the European Commission.) As a result, the fulfillment of the principal aim, namely, creating a smarter Europe – innovative and intelligent transformation of economies, is endangered. Companies play a meritorious role in achieving individual targets set not only by national but also European and international institutions (UNESCO, OECD) in EU countries [1].

The impact of training on employee performance has been explored in numerous studies, both in theoretical and practical aspects [2, 3]. Devlin Peck (2023) [3] deals with the effect of training on overall company performance, considering employee expectations, their motivation, and time management skills. Other authors approach employee training from a theoretical aspect, exploring several learning theories ranging from behavioral theory through cognitivism and constructivism to social learning theory and describing how each of them is applied in real-life employee training. They recommend opting for a suitable approach in corporate education [4]. Also, Dagnew Gebrehiwot and Elantheraiyan [5] point to the importance of training needs assessment and the availability of training resources as factors that influence employee performance. Regarding training resources, the authors recommend improving their availability and management. The concept of employee education in terms of type, duration, and lectors is explored in Khawaldeh [6] in the context of a case study.

In HRLINEUP [7], as many as ten benefits of employee training and development are listed, containing not only improved job performance and knowledge and skills but also better communication and teamwork, enriched employee problem-solving and critical thinking skills, and an impact on customer service and company reputation.

In today's internet era and education via the internet, companies are expanding the educational space with a number of educational activities, which can be found on internet platforms [8–11]. As authors, we are aware of the decisive role of making the right selection of employee education, which is beneficial for the employees' future careers. The issue of topic priorities in employee education is processed in our paper on the basis of original literary sources and confronted with the intentions and aims of the knowledge economy and intelligent transformation of economies formulated by the European Commission, highlighting the development of skills for a smart specialization, industrial transformation, and business-human resources for the innovative European Union. In accordance with these intentions, educational activities in our paper are directed mainly towards the support of the quality of further professional education oriented to improving work results and changes in work performance.

Professional education in the company is an important part of adult education. Its significant feature is that the people who take part in it are those with specific, completed qualifications. Professional education in the company either expands and innovates already acquired qualifications or, within the framework of interdisciplinary needs and changes in working conditions, it prepares the employee to perform work in changed technical and technological conditions. When training adults in the company, all categories of educational activities are accepted, as characterized by UNESCO [12], i.e., formal education, which creates a hierarchically structured and chronological system and is completed with the acquisition of a certificate of qualification; informal education, which is an organized education but is not completed with official documents on education and is also suitable for corporate education; as well as informal learning, which represents learning from experience during everyday communication both at work and in social life; and informal learning conducted with ICT support.

The basis of corporate professional education in the company is organized education, which is a deliberate process. Intentional education has its preparatory phase and its implementation phase, leading to the assessment process. If education is intentional and organized, it requires the preparation and processing of the topics of education [13, 14]. Developing the training topics and learning documents is a focal task for the overall training process. By no means do we intend to underestimate the implementation phase of education, which consists of the correct selection of educational approaches and the choice of methods and forms of education. When preparing the training topics, the following questions inevitably arise:

- What is the level and extent of knowledge in the given area?
- What is the level of knowledge of the participants for whom we are preparing the training?
- What are the criteria for selecting topic areas in the given field of education so that the participants can understand the content and are able to implement it in their work in practice?
- What are the principles on the basis of which the topics will be transferred to teaching?

When designing the topics of the training, we have to consider the importance of specific knowledge for the given target group and formulate the aims of the training. It is necessary to consider what the participants have to know to perform their work, what they should know, and what they could know. However, not everything that is known about a given problem may be used as a subject; it is therefore necessary to identify the areas (scientific knowledge, practical experience) from which the data will be selected, and the selection criteria must be based on adequately defined

educational goals and the characteristics of what the learners need to know, on the skills they must have, and from the point of view of what they will do to perform their jobs. It is important to transform the required knowledge into a didactic form, one corresponding to the intentions, learning goals, and addressees to whom the knowledge is intended. The list of topics in the MOMENTUM [15] contains various topics ranging from outbound training, change management, through soft skills training, up to presentation skills and leadership training. It is also important to measure the effectiveness of this transformation [16]. In another internet document, the following skills are mentioned: *emotional intelligence, cross-skilling, project management, conflict resolution, team building, and more* [17].

Each preparation of educational content is a modification of scientific knowledge and customary practical realizations in the given area for the needs of the target group of education. Nowadays, scientific knowledge in a given field may be so extensive that no teaching can contain it; therefore, the modification of the content and scope of education is a decisive element that enables us to make the training effective and useful [18, 19].

The starting point of the entire educational preparation is the formulation of educational aims for a specific target group: cognitive, affective, or psychomotor. After a rigorous substantive analysis of the issue, we approach its didactic transformation.

The aim of substantive analysis is to clarify the topic areas. Here, crucial aspects are: the professional competence of those who design the training topics, elaborate them from the point of view of various aspects, try to present the latest knowledge, clarify the history of the origin, and development of the topic [20].

Didactic transformation, carried out on the basis of certain principles, represents the selection of topics that will be transferred to teaching, either formal or informal ones. It could not be a simple choice; it has to be an adjustment, or rather, a modification, taking into account the intention related to the facts included in the teaching and considering the addressees who are going to deal with them in the learning and teaching and subsequently implement them in practice [21]. Not only that, many companies have problems evaluating the training outputs, but managers often find themselves coping with the fact that training does not bring the desired results. This situation led us to the need to conduct our empirical research, which we developed in cooperation with a selected group of future respondents, managers, and course instructors.

We divided the employee education/training implemented in selected companies into three groups: generally-oriented education, performance-oriented education, and digital education [22–24]. The basic variables include the number of training hours and the results of changes perceived after training activities. Based on theoretical analyses and the needs of practice, we defined the hypotheses presented in the methodology section of the paper. When designing the present paper and preparing the empirical research, the starting point is the needs of the company, which perceives training as an investment, where a wide range of training costs must be a returnable investment for the company [25]. When designing training activities, the needs of the company, arising from company strategies, the needs of implementing work activities at individual workplaces, and also those of future participants, have to be considered. The employees, as participants in training, have knowledge, skills, and previous practical experience and perform work activities at the workplace [26, 27]. Their opinions on educational needs are essential when the company training activities are designed and need to be analyzed based on the following basic questions: What do employees want to learn? What is of key importance to them? What do they find difficult when performing their work? Why do they wish, or why do they have to take part in the training?

In theory and practice, we find a three-level analysis of educational needs before processing training projects and designing training activities, ranging from the organizational level of analysis through the level of tasks and finally their fulfillment (KSA level of analysis − Knowledge−Skill−Ability) to the personal level of analysis [28, 29].

Educational needs of the training arise from the needs of the company as a whole, where strategies for the development of the company for the next period and established planned goals of the company as a whole, including innovative changes in the development of the company's ambitions, are important. When designing corporate training, the needs of departments, teams, functions, and jobs are taken into account. This includes information about jobs and activities implemented. The final level in determining educational needs is the level of individual employees: the personal level of analysis assesses the individual characteristics of employees and deals with the investigation of real and desirable employees' behavior and actions, which directly affect the performance of work tasks [30, 31].

The success and results of the company depend not only on the implementation of education but also on its thematic focus. The preparation of training starts with defining the target group of education and the characteristics of the aims of training, which have to be appropriate for the target group. Objectives need to be specific, measurable, consistent, and controllable. The history of developing employee training from a historical perspective is briefly described by Roy [32]. The aim of education is to determine what the participant will be able to do after completing the training. After the aims have been determined, the areas of training topics are selected, and the training topics are designed. The topics of the training must be customized to a given target learning group, taking into account learners' previous knowledge, skills, and experience, as well as the needs for the future performance of work tasks at the workplace [33, 34].

The issue of the systemic approach to corporate employee training and development has been elaborated on in a number of literary sources, including books, journals, and the Internet [17, 35–37]. It should be noted, however, that a rigorous analysis of educational needs is not always carried out in practice. And even if an educational project is developed for a training activity, it is not consistently based on the current need, considering all three levels of educational needs analysis. What we missed when studying the sources on the subject were the characteristics of the thematic focus of training activities in employer entities. It is this very area on which we focus our empirical research.

The aim of the empirical research is to identify the thematic focus of the educational activities of administrative staff in selected enterprises, which are included in Section C: Manufacturing, with a focus on the duration of training and the effects of the educational results, as described by the respondents. The issue of employee training effectiveness has been explored from various aspects and in various sources [38, 39].

The aim of the paper is to characterize how the period of time spent on employee training in individual topic areas relates to the outcomes and possible changes that facilitate individual training activities. Based on the study of literature as well as the discussions in employer entities, we would like to characterize the training activities implemented in the corporate sector. In our conclusions, we intend to present proposals for employer entities regarding the preparatory stages of further professional education and point out the mistakes that may be made by employer entities in this process.

2- Methods of Research

2-1- Characteristics of the Research Sample

We divided the employee education implemented in selected companies into three groups: general training, performance-oriented training, and digital training [23, 40].

The focus of empirical research is on the description of the content of training. As many as 370 employees from three countries (the Slovak Republic, the Czech Republic, and the Hellenic Republic) joined the research in the structure presented in Figure 1. Respondents are selected from Section C, Manufacturing, of the statistical classification of economic activities. Other sections were not taken into consideration. Follow-up activities lasting 180–200 days and related to the training program stood as an essential criterion. It means that only the opinions of respondents who evaluated the outcomes of their training 180–200 days after the completion of the training were taken into account. The object of investigating the topics of education is the administrative staff of the companies selected (see Figure 1).

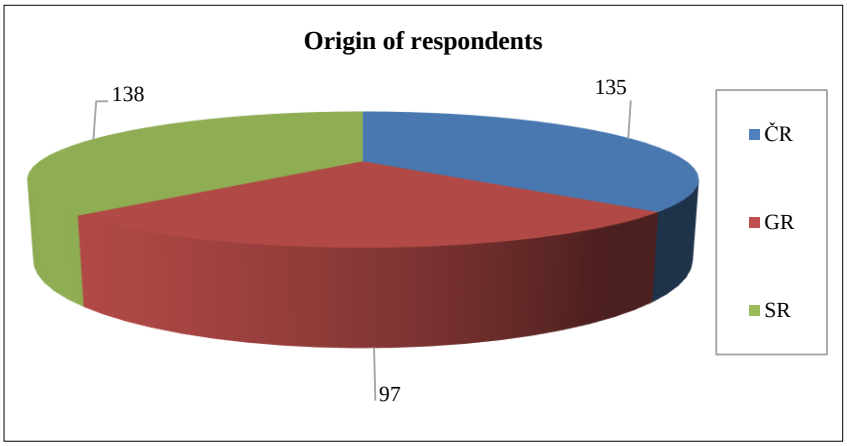

Figure 1. Origin of respondents (Explanatory Note: ČR −Czech Republic, SR −Slovak Republic, GR – Hellenic Republic)

One group of respondents consisted of 134 lectors (instructors) in further professional education who performed the job as their core or subsidiary activity (Table 1). Another group of respondents contained 236 managers, namely line managers and education managers (see Figure 2).

Table 1. Respondent's job position

Respondent's Job Position		Number of Respondents	Total
Instructors/lectors	Core Activity	44	134
	Subsidiary Activity	90	
Managers	Line Managers	117	236
	Education Managers	119	

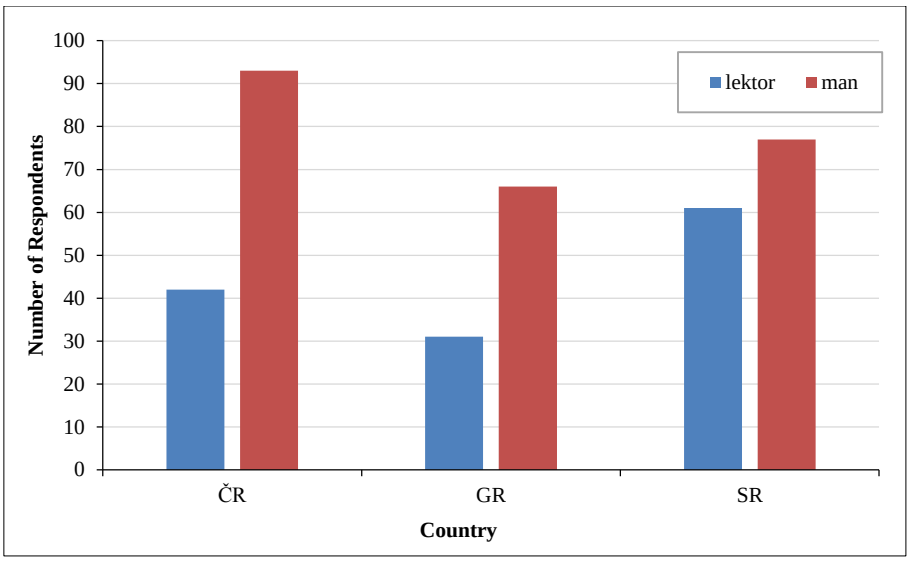

Figure 2. Respondent sample by country of origin (Explanatory Note: ČR −Czech Republic, SR −Slovak Republic, GR – Hellenic Republic lektor− lector/instructor; man – manager)

The respondents were selected on a deliberate principle in order to obtain the most accurate information related to the research as possible.

2-2- Methodological Bases of Research

When conducting empirical research, we collected information about the topics of the educational activities of administrative staff who work in industrial production. Administrative workers, on the one hand, perform a lot of routine work; on the other hand, they are expected to be involved in the innovation and rationalization of work, which is accompanied by the intensive use of information and communication technologies. Taking into account the content of education, we divided the topic focus of education into three basic areas: general education, performance-oriented education, and education focused on the development of digital skills and selected specific educational activities conducted in individual groups according to the opinions of the respondents and interviewed selected respondents as part of the pre-research stage. In the case of individual educational activities, the focus was on the time in hours, on average per employee, per year. Seven time brackets were created, and respondents were asked to choose and mark one of them.

Table 2. Time brackets in implementing individual training activities

Reply value	Number of training hours per employee/ year
1	Up to 5 hours
2	6 – 12 hours
3	13 – 19 hours
4	20 – 27 hours
5	28 – 34 hours
6	35 – 40 hours
7	41 + hours

The research was conducted using the questionnaire method; the questionnaires were distributed online but also physically. Training activities were divided into three basic groups subsequently listed in Tables 3 to 5.

Table 3. Implementation of general training

General Training
Legislation
Communication skills
Conflict avoidance and dealing with conflicts
Critical thinking
Development of emotional intelligence
Mental health and work-life balance
Time management

Table 4. Implementation of performance oriented training

Activities of Performance Oriented Training
Decision making skills training
Setting priorities to tasks assigned, delegating tasks and implementation of the tasks in terms of time
Thinking in contexts, searching for ways of improvement, ability to innovate at work
Cooperation in performing tasks at workplace, building relationships at work, requirements for teamwork, positive work atmosphere.
Entrepreneurship (entrepreneurial thought)
Technical knowledge according to job position gained through education of individuals (knowledge of production, technologies, and products – ways of their innovations, improving individual processes etc.)
Technical knowledge according to job position secured by team education (knowledge of production, technologies, and products – ways of their innovations, improving individual processes etc.)

Table 5. Implementation of digital training

Development of digital skills
Excel training
Adobe training
SAP training
Designing documents in MS Office, mastering basic office programs
Microsoft SQL training (SQL – Structured Query Language – it serves for acquiring data from databases)
Analysis in PowerBI
Cybernetic safety – safety at work with systems, internet law
CPS systems – systems integrating the physical and digital worlds
Chatbot GPT – conversation AI tool
Strengthening VPN (virtual private network)
Linkedin platform
CogniPay system
chat GPT – implementation and AI application
CENKROS program
Skils for working with social networks
Interactive games focused on education
KPI analyses – key performance indicators
Education through virtual reality – augmented reality (AR)
Interactive boards used in education
Foxario – intelligent solutions for modern education
FineCreator – web tool for designing online courses, which the company may create an using pictures, videos, or quizzes.
Supervisor – web application for monitoring online exams, testing or certification performed from home.
Voxy platform serves for online interactive language learning (listening, writing, but also group lessons) [41].

Companies spend a lot of time as well as finance on employee education. The implementation of educational activities would be a source of changes in work performance, and those, in turn, would be reflected in increased performance of individuals, teams, work groups, departments, and the entire company. We investigated respondents' opinions of the impacts of training. Results of education were divided and evaluated by respondents into separate parts: general education, results monitored in performance-oriented education, and those from the development of digital literacy; at present, results of information and communication technologies are applied in the third one. Respondents evaluated the results achieved in the interval of 0–5, while individual rating levels are defined and presented in Table 6.

Table 6. Assessment of education results by respondents

Rating Level	Description of Assessment
0	No changes are observed.
1	Improvement of an individual's work performance
2	Improvement of the work performance in the case of employees performing a given type of job (across jobs and departments)
3	Improvement of the work performance manifested in teams, where at least one person has been trained
4	Improvement of the work performance is manifested in departments, in intracompany sections, and the like.
5	Improvement of the work performance is manifested in the entire company.

After the description of the research model worked out by the authors in cooperation with several selected respondents in pre-research, the questionnaire survey was carried out. The aim here was to identify the types of topics of employee education, the duration in hours of educational activities carried out, and the results of education/training, which were described by respondents in their replies.

Based on theoretical starting-points, we formulated hypotheses as follows:

First Hypothesis:

H0: The number or hours of general oriented training does not influence the change in the work results.

H1: The number or hours of general oriented training influences the change in the work results.

Second Hypothesis:

H0: The number or hours of performance-oriented training does not influence the change in the work results.

H1: The number or hours of performance-oriented training influences the change in the work results.

Third Hypothesis:

H0: The number of hours of digital training does not influence the change in the work outputs.

H1: The number of hours of digital training influences the change in the work outputs.

Fourth Hypothesis:

H0: Analysed countries do not differ in the number of hours of employee education/training.

H1: Analysed countries differ in the number of hours of employee education/training.

The statistical processing of data is done in Excel and Jamovi programs. Statistical evaluation of the empirical research is the basis for designing proposals leading to the adequate preparation of educational activities, whose basis is preparing the topics of training based on the identification of educational needs. In the context of education, we regard identification of educational needs as a focal point, which will enable us to design suitable educational projects with an adequate determination of evaluation criteria for the outcomes of education.

The process of developing methods of research applied in this research study is presented in the following figure (Figure 3).

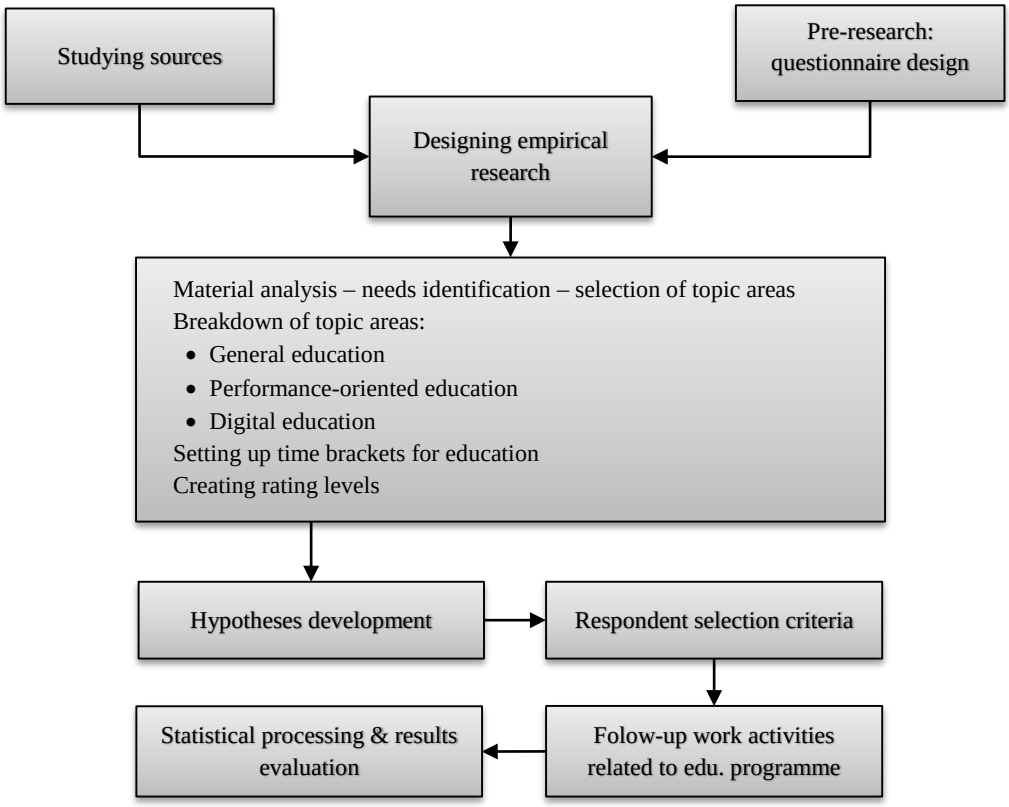

Figure 3. Process of designing methods of research

3- Research Results

The aim of this paper is to characterize how the period of time for training employees in individual thematic areas is related to the outcomes and possibly even changes facilitated by individual educational activities. As part of the evaluation, we compared the results achieved in the Slovak Republic, the Czech Republic, and the Hellenic Republic. For the comparison of individual countries, we chose the modus indicator, which represents the most frequently occurring value. The number of hours was comparable in the Slovak Republic and the Czech Republic, with the exception of conflict avoidance and resolution, where the respondents in the Czech Republic stated that employees were trained in the interval of 6−12 hours on average, while in the Slovak Republic it is up to five hours per employee per year on average. A surprising finding was the information provided by Greek respondents concerning the topic of conflict avoidance and dealing with conflicts (Table 7) located in the interval of 20−27 hours, which is similar to critical thinking. In the Hellenic Republic, considerable attention is paid to the development of emotional intelligence skills; the modus is an interval of 28−34 hours.

Table 7. Implementation of general training

General oriented training activities	Modus by individual territories in hours devoted to individual training activities		
	Slovak Republic	Czech Republic	Hellenic Republic
Legislation	5	5	5
Communication skills	2	2	5
Conflict avoidance and conflict resolution	1	2	4
Critical thinking	1	1	4
Development of emotional intelligence	2	2	5
Mental health and work-life balance	1	1	1
Time management	1	1	1

An important part of corporate training is professional training focused on achieving higher performance. In this training, companies include the educational activities mentioned earlier in the paper. For the purpose of comparing the situation in the three countries, we again opted for the modus as the most frequently occurring value, which describes an average number of hours devoted to training activities. The results in performance-oriented training in the three countries are comparable. The only difference is in acquiring professional knowledge through team learning, where the duration of this training in Greece is up to 40 hours.

Table 8. Implementation of performance-oriented training

Performance-oriented activities	Modus by individual territories in hours devoted to individual training activities		
	Slovak Republic	Czech Republic	Hellenic Republic
Decision making skills training	1	1	1
Setting priorities to tasks assigned, delegating tasks and implementation of the tasks in terms of time	4	4	4
Thinking in contexts, searching for ways of improvements, ability to innovate at work	1	1	1
Cooperation in performing tasks at workplace, building relationships at work, requirements for teamwork, favourable work environment	5	5	5
Entrepreneurship (entrepreneurial thought)	5	5	5
Technical knowledge according to job position gained through education of individuals (knowledge of production, technologies, and products – ways of their innovations, improving individual processes etc.)	5	5	5
Technical knowledge according to job position secured by team learning (knowledge of production, technologies, and products – ways of their innovations, improving individual processes, etc.)	7	7	6

The final group of educational activities contains the development of digital skills. Digital skills are needed in the performance of administrative tasks but also in presentation competences, providing information, as well as the need for learning and taking part in training. The modus indicator characterizes the diversity of the scope of instruction in the case of individual training activities; however, it can be observed that the scope of hours of training in individual countries is comparable.

Table 9. Implementation of digitally oriented training

Development of digital skills	Modus pre individual territories in the number of hours devoted to individual training activities		
	Slovak Republic	Czech Republic	Hellenic Republic
Excel training	4	4	4
Adobe training	1	1	1
SAP training	2	2	2
MS Office – mastering basic Office programs	3	3	3
Microsoft SQL training (SQL – Structured Query Language)	2	2	2
Analysis in PowerBI	7	7	7
Cybernetic safety – safety at work with systems, internet law	7	7	7
CPS systems	1	1	1
Chatbot GPT	5	5	5
Strengthening VPN	1	1	1
Linkedln platform	3	3	3
CogniPay system	1	1	1
chat GPT – implementation and application of AI	1	1	1
CENKROS program	4	4	4
Skills for working with social networks	1	1	1
Interactive games focused on education	3	3	3
KPI analyses – key performance indicators	5	5	5
Education through virtual reality– augmented reality	1	1	1
Interactive boards used in education	1	1	1
Foxario – intelligent solutions for modern education	3	3	3
FineCreator – web tool for designing online courses.	5	5	5
Supervisor – for monitoring online exams, testing or certification performed from home.	3	3	3
Voxy platform serves for online interactive language learning through listening and writing but also group lessons.	7	7	6

In the empirical research, the focus was on the evaluation of results as perceived by lectors/ instructors, managers, i.e. line managers and education managers.

Their evaluation in terms of the classification into general education/training, performance oriented training and digitally oriented training in presented in Table 10.

Table 10. Evaluation of general training by respondents

Degree of assessment	Description of assessment	Territory/country			Total
		Slovak Republic	Czech Republic	Hellenic Republic	
0	No changes are observed	-	-	-	-
1	Improvement of the work performance of an individual	-	-	-	-
2	Improvement of the work performance in employees performing a given type of job (across jobs and departments)	3	2	-	5
3	Improvement of the work performance is manifested in teams, where at least one has been trained	69	70	47	186
4	Improvement of the work performance is manifested in departments, in intracompany sections, and the like.	51	47	40	138
5	Improvement of the work performance is manifested in the entire company.	15	16	10	41
	Total	138	135	97	370

In the Slovak and Czech Republics, the results of general-oriented training were evaluated in the span of 2−5; in Greece, they were evaluated in the span of 3−5. Respondents noticed the best improvement in general training in the work of teams, in which one member at least was trained. We also recorded improvements in work performance as evaluated by numerous respondents, which are reflected in departments and in individual intra-company sections.

On the basis of the correlation matrix (Table 11), we explored the relationship between the number of hours used for individual types of training activities and evaluations of training results observed by selected respondents.

Table 11. The calculation of Pearson's correlation coefficient of general training in companies

		Evaluation results for general training by respondents	
Legislation	Pearson's r	0.439	***
	p-value	<0.001	
Communication skills	Pearson's r	0.377	***
	p-value	<0.001	
Conflict avoidance and dealing with conflicts	Pearson's r	0.304	***
	p-value	<0.001	
Development of critical thinking	Pearson's r	0.223	***
	p-value	<0.001	
Development of emotional intelligence	Pearson's r	0.302	***
	p-value	<0.001	
Mental health support and work life balance	Pearson's r	0.166	**
	p-value	0.001	
Time management	Pearson's r	0.215	***
	p-value	<0.001	

Note. * p < 0.05, ** p < 0.01, *** p < 0.001.

Processed in JAMOVI software.

Based on calculations of Pearson's correlation coefficient, it can be stated that the medium dependence between the evaluation of training results and the number of training hours in individual training activities may be observed in legislation training (r = 0.439), in communication training (r = 0.377), in training in avoiding and dealing with conflicts (r = 0.304), and in emotional intelligence training (r = 0.302). A weak correlation between the evaluation of results by instructors/lectors and managers may be observed in training activities, for example, the development of critical thinking (r = 0.233), work-life balance (r = 0.166), and time management (r = 0.215). In cases of general training topics, there is a dependence between the number of hours of training and the evaluation of the results of training based on respondents' opinions.

Table 12. Assessment of performance oriented training results according to respondents' opinions

Degree of assessment	Description of assessment	Territory/country			Total
		Slovak Republic	Czech Republic	Hellenic Republic	
4	Improvement of the work performance is manifested in departments, intracompany sections, and the like.	106	106	75	287
5	Improvement of the work performance is manifested in the entire company.	32	29	22	83
Total		138	135	97	370

When evaluating performance-oriented training, respondents indicated only rating levels 4 and 5. The best performance improvement after the training occurred, according to respondents, in individual company departments.

When calculating the correlation matrix, Pearson's correlation coefficient, it may be stated that the dependence between the number of hours of individual training activities and the evaluated results achieved on the basis of training, according to respondents' opinions, dependence was achieved in the case of technical /professional training designed according to the employee's job position (r = 0.152), which was conducted within training courses. The following is the calculation of the correlation coefficient (Table 13).

Table 13. Calculation of Pearson's coefficient

		Assessment of results by respondents	
Legislation	Pearson's r	0.152	**
	p-value	0.003	

Note: * p < 0.05, ** p < 0.01, *** p < 0.001

The focus of education was on preparing individual selected employees and workers in various job positions, which is referred to as the training of individuals who take professionally oriented training courses and is usually held at educational institutions (Table 14).

Table 14. Assessment of digital training according to respondents' opinions

Rating level	Description of assessment	Territory/country			Total
		Slovak Republic	Czech Republic	Hellenic Republic	
1	Improvement of the work performance of an individual	100	100	75	275
3	Improvement of the work performance in the case of employees performing a given type of job (across jobs and departments)	38	35	22	95
Total		138	135	97	370

In the case of digital education, respondents recorded results only in the improved performance of individuals who participated in the training and also in the improved work performance of the team whose members were trained. As part of the team work, respondents observed that it is sufficient if one team member is trained in the relevant digital skills and then passes this knowledge and skills on to other team members. From the empirical research conducted, it can be observed that the highest number of hours of education is devoted to digital education. This is understandable considering the needs of digitalization in economic and social life and, in general, the outlined trends of further development documented in numerous national and European documents [42].

When calculating the correlation matrix and Pearson's correlation coefficient, however, only a small dependence may be noticed between the number of hours devoted to digital training and the evaluation of the results of respondent training. This small dependency was observed in the training in analyses BI (r = -0.130), in training and using the platform Linkedln (r = 0.151), and in the training in the CENKROS program (r = 0.137). In other items of the correlation matrix, no relationship was calculated between the number of hours in individual types of training activities and the evaluations commented on by respondents (Table 15).

Table 15. Calculation of correlation coefficient

		Evaluation results for general training by respondents	
Training in BI analyses	Pearson's r	-0.130	*
	p-value	0.013	
Linkedln platform	Pearson's r	0.151	**
	p-value	0.004	
Cenkrot program	Pearson's r	0.137	**
	p-value	0.008	

Note. * p < 0.05, ** p < 0.01, *** p < 0.001

Although a great deal of working time is devoted to digital education, many training activities serve the current performance of administrative tasks, and some training activities should facilitate the training process. This is the reason why, in our opinion, the results of training are reflected in the work of individuals and in team work only in the case of a small number of training activities. Digital training is a matter of development for the future; improvement of work in further education and permanent improvement of administrative tasks may be expected. Digitally oriented education is of particular importance in fulfilling the goals of Europe's digital transformation. The respondents see the outcomes of this training mainly in the improvement of work performance in individual work and in the improvement of work performance in teams where at least one employee has been trained. Our recommendations include the proposals addressed to the companies, which should pay attention to:

- Team briefings and administrative staff briefings at the workplace prior to training.
- Coaching of education/training participants at the workplace after completing the training and providing them with support to implement new knowledge that was the content of their training.
- Instructional training for line managers aimed at creating conditions for the application of new knowledge.
- Allowing for an adequately long period of time for the follow-up activities.

Based on the opinions of the respondents in the empirical research, general education and performance-oriented education are of particular importance. The outcomes of these two groups of education lead to the improvement of work performance in individual departments and, what is very important, to better work results for the entire company. General-oriented training enables the improvement of work performance even in individual teams in which at least one employee has been trained.

In our research, we considered only the opinions of those respondents who evaluated the results of training in their employer entities 180–200 days after the end of their training, which appears to be a short period for the application of digital education. During this time, the results of employee training have not yet been reflected in the results of the organization's performance. An urgent task appears in this area: creating conditions for applying the knowledge and skills learned by participants during the training. In our further research, we intend to deal with post-training results. We would like to analyze follow-up activities related to the training program. As our research and respondents' experience show, after the completion of training programs, employee knowledge and skills are not consolidated; employees tend to return to their established regime without any changes, as well as to the same workplace conditions, which, in fact, are the basis for implementing the knowledge in practice and for their long-term application.

4- Conclusion

We developed the thematic orientation of employee education from original literary sources and confronted them with corporate practice, on the one hand, as well as with the intentions and targets of the knowledge economy and the intelligent transformation of economies formulated by the European Commission, which emphasizes the development of skills for intelligent specialization, industrial transformation, and human resource entrepreneurship in a smarter Europe, on the other hand. As part of these intentions, we classified educational activities aimed at supporting the quality of further professional education aimed at improving work results and changes in the work performance of the analyzed group of employees.

The key finding of the study is that our division of educational activities into general education, performance-oriented education, and digital education enables the fulfillment of the basic goal set by the European Commission in the 2021–2027 program period– to ensure an innovative and intelligent transformation of the economies of the member countries of the European Union.

We have realized that most problems evolve from setting vague or non-specific educational objectives, which often have no measurable criteria. Educational objectives have to be specified as concrete, measurable, consistent, and verifiable, and that, in turn, will create a prerequisite for developing assessment systems for the learning content. Part of this complex evaluation system is working out several training assessment models. In this area, it is important to promote cooperation between entrepreneurial entities and the academic sphere − researchers, who collaborate with policymakers and financial analysts. Our idea of improving this cooperation is based on developing an ecosystem with suitable network relationships that promote the cooperation of several entities that promote their cooperation. This cooperation is necessary for the completion of the cohesion policy enforced by the European Commission for 2021–2023.

In the future, we would like to analyze the nature of new knowledge and skills in terms of their novelty and applicability in practice, as well as explore in greater detail the issue of post-training follow-up activities. The novelty of our empirical analysis presented in this research study is an international comparison of selected European Union countries.

5- Declarations

5-1- Author Contributions

Conceptualization, M.M. and D.B.; methodology, M.M.; software, J.H.; validation, D.B., Z.G., and J.H.; formal analysis, M.M.; investigation, M.M.; resources, D.B. and Z.G.; data curation, Z.G.; writing—original draft preparation, M.M.; writing—review and editing, D.B.; visualization, J.H.; supervision, M.M.; project administration, M.M.; funding acquisition, M.M. All authors have read and agreed to the published version of the manuscript.

5-2- Data Availability Statement

The data presented in this study are available in the article.

5-3- Funding

The funds to cover the article processing fee for the research paper were provided from the project VEGA 1/0328/21 "Post-pandemic business management: identifying temporary and sustainable changes in sequential and parallel management functions in the context of the COVID-19 pandemic." Grant Recipient is Assoc. Prof. Ing. Juraj Mišún, PhD.

5-4- Acknowledgements

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5-5- Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of the University of Economics in Bratislava (protocol code EKEUBA-VEGA1/0328/21-2/2023; date of approval is 23 February 2023).

5-6- Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

5-7- Conflicts of Interest

The authors declare that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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