

IT specialists' training in the framework of corporate education: the scientific and pedagogical discourse

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Annotation. The article is devoted to highlighting the results of the study of the problem of IT specialists' training organisation in the framework of corporate education. The analysis of the scientific and pedagogical literature on the problem under research was carried out. It highlights the theoretical and methodological foundations of professional training and professional development of a modern specialist, the essence and characteristics of corporate education, the specificity of specialists for IT industry professional training. The purpose of the article is to summarize the work of Ukrainian and foreign researchers, which allows us to specify the concept of "corporate education and corporate training of IT workers". It has been clarified that understanding the role and importance of corporate training, at the beginning of the 21st century, more and more companies are beginning to pay attention to the development of intangible resources, including human capital. The organization of corporate education is considered as one of the types of investments in the development of the company's human capital, as well as one of the ways to increase one's own productivity, the level of customer satisfaction, expand opportunities in the market, and introduce innovations. It has been concluded that corporate training is a type of training that is organized by the company for the purpose of continuous professional development of employees and involves coordinating training priorities with business needs, identifying the needs and interests of employees, selecting the most effective training initiatives and programs, evaluating the effectiveness of professional development programs and their impact on improving the work of an individual employee and the company as a whole. Based on the study of research resources, it was found that the scientific investigations that highlight its distinct aspects do not have a systematic nature, although they reflect the use of tools that are characteristic of pedagogical, psychological, and managerial fields of knowledge. The prospects for further scientific research have been defined.

Keywords: corporate education, corporate training, initial professional training, IT company, IT industry, IT specialist, professional development.

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Навчання ІТ-фахівців в умовах корпоративної освіти: науково-педагогічний дискурс

Анотація. Стаття присвячена висвітленню результатів дослідження проблеми організації навчання ІТ фахівців в умовах корпоративної освіти. Виконано аналіз науково-педагогічної літератури з проблеми дослідження, що висвітлює теоретико-методологічні засади професійної підготовки та професійного розвитку сучасного фахівця, сутність та особливості корпоративної освіти, специфіку професійної підготовки фахівців ІТ-галузі. Метою статті є узагальнення напрацювань українських та зарубіжних дослідників, що дозволяє конкретизувати поняття «корпоративна освіта та корпоративне навчання ІТ-працівників». З'ясовано, що розуміючи роль і важливість корпоративного навчання, на початку 21 століття все більше компаній починають приділяти увагу розвитку нематеріальних ресурсів, в тому числі людського капіталу. Організація корпоративної освіти розглядається як один із видів інвестицій у розвиток людського капіталу компанії, а також як один із способів підвищити власну продуктивність, рівень задоволеності клієнтів, розширити можливості на ринку та запровадити інновації. Зроблено висновок, що корпоративне навчання – це вид навчання, який організовується компанією з метою безперервного професійного розвитку співробітників і передбачає узгодження пріоритетів навчання з потребами бізнесу, визначення потреб та інтересів співробітників, вибір найбільш ефективних навчальних ініціатив і програм, оцінка ефективності програм підвищення кваліфікації та їх впливу на покращення роботи окремого працівника та компанії в цілому. На основі вивчення джерельної бази дослідження виявлено, що наукові розвідки, які висвітлюють його окремі аспекти, не мають системного характеру, хоча й відображають використання інструментарію, характерного для педагогічної, психологічної та управлінської галузі знань. Визначено перспективи подальших наукових досліджень.

Ключові слова: корпоративна освіта, корпоративне навчання, початкова професійна підготовка, ІТ компанія, ІТ галузь, ІТ фахівець, професійний розвиток.

Introduction

At the beginning of the 21st century, highly qualified specialists are in demand in the IT industry. It becomes obvious the need to train specialists who are ready to fully function in a professional environment, who have the appropriate knowledge and skills. Taking into account the rapid pace of IT industry development, the wide use of tools represented by modern IT technologies, it seems a logical conclusion about the need for both the initial training of future IT specialists and the provision of opportunities for improving their professional competence in the framework of corporate education.

In Ukraine, the training of future specialists for the IT industry is carried out within the framework of professional pre-higher and higher education. Traditionally, college graduates continue their studies to obtain the first (bachelor's) level of higher education, and later the second (master's) level of higher education in the conditions of modern universities. Graduates of master's programs who aspire to engage in scientific research continue their studies to obtain the third (educational and scientific) level of higher education and enter post-graduate school, where future Doctors of Philosophy are trained. However, special attention is paid to the organization of corporate education, which allows implementing a compensatory function with the aim of training IT specialists to perform specific professional tasks.

The analysis of recent research and publications. In the course of the research, we analysed regulatory documents that outline the development of higher education and the implementation of professional training of IT specialists at the national and institutional levels. An analysis of scientific, pedagogical and professional literature was carried out. It sheds light

on the specifics of the professional training of specialists for the IT industry: scientific publications devoted to the analysis of the theoretical and methodological foundations of professional training and professional development of a modern specialist [2; 11]; publications highlighting the essence and characteristics of corporate education [16; 18]. These devoted to the analysis of professional training of specialists for the IT industry make up a special layer of the source base [4; 5; 9; 10; 12; 14; 15].

The formulation of article purpose. The purpose of our article is to summarize the work of Ukrainian and foreign researchers, which allows us to specify the concept of "corporate education and corporate training of IT workers".

Results

One of the first works presenting the results of the analysis of the problem of IT specialists professional training is the thesis of R. Sharan, devoted to the study of the American experience of IT specialists training in the conditions of distance education. This work makes it possible to get acquainted with the "organizational and pedagogical principles of distance learning of IT masters in US universities (types of institutions of masters' distance learning, legislative and regulatory support, content of professional training, principles and models of building curricula and educational programs, use of innovative pedagogical technologies, scientific and methodical support, forms for monitoring the quality of IT masters' professional training, accreditation of educational and professional programs)" [15, p. 7].

Investigating the theoretical and methodological foundations of the technical training of future IT specialists, P. Malezhik draws attention to the fact that highly qualified IT specialists are in demand in various spheres of the country's economy, and the labour market, outlines the requirement for their readiness to perform professional functions in such fields, as: "processing industry; production of electrical, electronic and optical equipment; production of electronic computing machines and other equipment for information processing; assembly and installation of electronic computing machines and other information processing equipment; production of electrical and radio components; transactions with real estate, lease, engineering and provision of services to entrepreneurs; real estate transactions, leasing, engineering and provision of services to entrepreneurs; consulting on informatization issues; development of standard software; other activities in the field of software development; data processing; activities related to databases; repair and maintenance of electronic computing equipment; other activities in the field of informatization" [4, p. 57-58].

According to the work of L. Zubyk (2016), professional competence is "the ability of an individual to carry out professional activities on the basis of acquired knowledge, abilities, skills that contribute to the development of the creative potential of an individual, professional self-development and have signs of systematicity" [3, p. 16], its formation is "a complex multifunctional processor aimed at mastering stable, integrated, professional knowledge, the ability to apply it in new, non-standard situations in order to ensure the development of personal qualities and properties determined by the ability to productive professional activity" [3, p. 23].

Among the these which form the scientific interest we include the work of V. Sedov, devoted to the study of the problem of the formation of software engineers' professional competence in a higher education institution. The author proves that "professional competence is a fairly independent complex integral formation in the personality structure of a master of programming engineer, which is a system of abilities, qualities, values, motivational attitudes, knowledge and practical skills for carrying out professional activities in the profession of programming engineer, as well as a researcher and a teacher of a higher school, who provide a high level of professional training and awareness. This complex term is not reduced only to abilities, a high level of professional knowledge, a complex of personal traits. The above made

it possible to determine the components in professional competence structure: the value-motivational, reflective, cognitive, operational, personal" [10, p. 7].

O. Mytseva analyzes the formation of IT specialist's image and emphasizes the special importance of not only their professional competence, but also personal qualities: "Among the personal qualities that a future IT specialist should possess there are analytical mind, intuition, the ability to have a comprehensive vision, accuracy, endurance, patience, attentiveness, the ability to finish any work started and take responsibility for its results, the ability to plan one's own actions for the long term" [5, p. 65].

Continuing research in this area, A. Roschenyuk singles out the problem of self-realization of an IT specialist and preparation for it. The author notes that "the self-realization of an individual is a complex, systemic, integrated quality that has fundamentally common foundations, but a different level of development. The basis of effective creative self-realization is search orientation, initiative, self-activity, etc., and the conditions are social orientation, constructive communication, self-awareness, autonomy [9, p. 61].

If the previous studies concern the training of IT specialists in the conditions of a higher education institution, the scientific research of O. Skorniyakova (2020) actualizes the problem of the formation of professional competence, and therefore the competitiveness of IT specialists in the conditions of pre-higher education. The researcher is convinced that the training of competitive IT specialists should be based on systemic, competency-based, contextual, activity-based, and person-oriented approaches [12].

A number of these studies are devoted to the analysis of the specifics of the formation of discrete competencies of IT specialists. Among them there is the work of N. Shandra, in which the scientist focused attention on the formation of English-language competence of future specialists of the IT industry and convinces that "fulfilling professional duties and solving professional problems with the help of foreign language professional communication requires a high level of foreign language communicative competence formation. In turn, a high level of English lexical competence formation in business written communication provides IT specialists with the opportunity to properly fulfil their professional duties and roles in the process of foreign language professional oriented written communication" [14, p. 29-30].

As evidenced by the results of the analysis of the theses studies, all of them relate to highlighting the specifics of the initial professional training of IT specialists. However, in the domestic scientific and pedagogical discourse, there are no works dedicated to the study of the peculiarities of IT specialists' professional development in the framework of corporate education, which is an urgent problem today.

Among the these devoted to the problem of organizing corporate education [1; 6; 7; 8] we pay attention to the theses of O. Banit [1]. This is one of the first researches highlighting the foreign experience of personnel training in the framework of corporate education. The author is convinced that nowadays "corporate education is considered as an integral part of business, focused on a real direct and/or indirect economic effect. This form of education should be cost-effective, which means that easily replicated educational technologies should be used with minimal separation of managers from professional duties and minimization of costs for the implementation of educational programs" [1, p. 87].

As H. Nosulich notes, in the course of analysing the development of corporate education in Canada, corporate education should be considered from the perspective of the concept of continuous learning. The author argues that "corporate education plays an important role in the development of most companies, as it is closely related to the organization's key competencies and strategic focus. In the era of the knowledge-based economy, the basis of a successful strategy of organizations is intellectual capital rather than financial capital" [7, p. 110].

Continuing research in this area, N. Nakonechna proves the existence of a relationship between the corporate culture of an organization and corporate learning, which is assigned both an educational and an upbringing role, taking into account the experience of privately owned higher education institutions [6].

Of scientific interest is the thesis of Zhou Xuilin, in which the author convinces that "an effective system of corporate education becomes a source of powerful innovative development of the organization thanks to the accumulation of unique corporate knowledge, acceleration of adaptation of new employees, formation of a productive personnel reserve, increase of employee motivation for self-improvement, transfer of not only knowledge and skills, but also corporate values of personnel" [13, p. 39].

The achievements of scientists in the field of management are interesting for our research. So, researching the organizational training of personnel of IT enterprises, N. Pavlenko claims that training in the organization should be considered from the perspective of two approaches: traditional and flexible. The author proves that "the growing instability of the external environment and the nature of the activities of IT enterprises lead to the spread of new flexible approaches to management, which significantly affect the learning processes and changes in the requirements for the competence of employees. In contrast to traditional training, flexible is more open, personalized, accessible and focused on supporting internal motivation. It involves extensive use of facilitation, mentoring and coaching. The priority is the formation of educational flexibility in the staff, which is necessary for the rapid assimilation of new knowledge and stimulation of innovative thinking" [8, p. 75]

According to the results of S. Barile, M. Ciasullo, M. Testa and A. La Sala [16], corporate education is one of the important activities of a modern company aimed at personnel development. The purpose of corporate education is the professional development of employees, improvement of their professional competence, which will allow them to fully perform their job duties and professional functions. With the help of corporate education and the use of appropriate tools, the motivation of employees is increased, the influence on the employee is exerted, which contributes to the generation of self-efficacy, the direction of self-improvement and improvement of the company's activities in general.

We agree with researchers I. Varis, O. Kravchuk, and A. Burda (2022) that "the development and training of personnel in the corporate environment is one of the main elements of productive investment. Comprehensive programs of corporate education and personnel development create opportunities for increasing professional competences, creating a professional team of qualified specialists and should provide for advance training. All this is the key to the successful development of the organization and its readiness for future challenges" [19, p. 17]. The authors classify the types of corporate education according to its purpose and distinguish:

- "training of personnel (planned and structured training and graduation of qualified personnel who have a base of special knowledge, abilities and skills);
- Professional development (training of personnel with the aim of improving knowledge, skills and communication technologies in connection with increasing the requirements for a specialty or promotion by position);
- retraining of personnel (training of personnel with the aim of mastering new knowledge, abilities and skills in connection with mastering a new specialty)" [19, p. 17].

The work of E. Betof [17] is important for our research. The author notes several advantages of corporate education, which include promoting the achievement of results, stimulating the development of leaders, improving the leadership qualities of trainers, developing organizational culture and communication, promoting the introduction of positive changes in the organization, reducing costs due to attracting the best talents [17].

In the context of the interpretation of the term "corporate education", we note that O. Banit [1] refers to the main goals of corporate education as "increasing the quality of human resources; carrying out organizational changes, including adaptation to the changing conditions of the external environment; personnel development; improvement of the communication system in the organization; formation of organizational culture; increasing the level of loyalty to the organization; improving the quality of products or services produced by the organization" [1, p. 87]. We cannot but agree with the statement that "the technology of corporate training is based on the ideas of a team approach to the professional training of future personnel managers. Note that with a team approach, teams are usually created to solve specific production tasks, that is, to develop the strategy of an organization or enterprise, to implement professional or production projects. Teams should preferably have an atmosphere of cooperation, equality, and each team member should feel devotion to the main goal of team activity. In the team, different specialists can perform different functions according to the personal qualities of the specialists. An individual approach will help make better use of their strengths" [13, p. 36].

So, we conclude that at the beginning of the 21st century, the importance is attached to the organization of corporate education and training in IT companies, which is aimed at providing opportunities for continuous professional development, and involves investing in talent development and increasing the potential of human capital.

Understanding the role and importance of corporate training, at the beginning of the 21st century, more and more companies are beginning to pay attention to the development of intangible resources, including human capital. The organization of corporate education is considered as one of the types of investments in the development of the company's human capital, as well as one of the ways to increase one's own productivity, the level of customer satisfaction, expand opportunities in the market, and introduce innovations. "Today, the employees themselves at all levels of the organization understand: they need to constantly learn in order to remain in demand and advance in their careers. A learning organization is an organization that is able to create, acquire and transfer knowledge and change behaviour in accordance with innovative developments [7, p. 110].

Taking into account the research results of domestic and foreign scientists, we conclude that corporate training is a type of training that is organized by the company for the purpose of continuous professional development of employees and involves coordinating training priorities with business needs, identifying the needs and interests of employees, selecting the most effective training initiatives and programs, evaluating the effectiveness of professional development programs and their impact on improving the work of an individual employee and the company as a whole.

Regarding the specification of the concept of "IT specialist", it is worth noting that the modern professional world, the functioning of which is based on the wide use of information and communication technologies, uses the services of technical specialists whose main functions include the implementation, monitoring and support of IT systems. In other words, IT professionals provide computer and technical support to organizations and companies, which involves the installation and monitoring of the company's network, database, software and hardware activities in order to ensure uninterrupted operation and protection against threats. The professional functions of IT specialists include testing devices, software, troubleshooting, updating, training employees on the use of information and communication technologies in their own work. Taking into account the IT industry as a separate professional field, we can say that here the category "IT specialists" combines a large group of specialists whose field of activity is directly related to IT technologies. This includes big data analysts, Web developers, social network development and promotion managers, system administrators, programmers-engineers, etc.

Conclusion

So, as evidenced by the results of the analysis of the problem of IT workers' professional development in the framework of corporate education in the scientific and pedagogical discourse, this problem is topical and appropriate for further study. Based on the study of research resources, it was found that the scientific investigations that highlight its distinct aspects do not have a systematic nature, although they reflect the use of tools that are characteristic of pedagogical, psychological, and managerial fields of knowledge.

Prospects for further scientific research include studying the experience of modern IT companies in organizing corporate education and training for employees.

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