

The study of the genesis and stages of the competence approach formation based on a comparative analysis of the main scientific schools and directions

*A I Epikhin, M L Somko, G V Epikhina, and T G Toriya**

Admiral F. F. Ushakov State Maritime University, 93 Lenin Ave., Novorossiysk, 353918, Russian Federation

Abstract. The article considers the current economic paradigm, defining new imperatives that increase the importance of strategies for building human resources and creating an effective structure and composition of human capital within organizations. This problem is caused by the transition to a qualitatively new model of ensuring the sovereignty and economic stability of Russia. The processes of evolutionary transformation of the economy and its departure from the supply model mainly due to the raw materials and speculative sectors of the economy in the direction that correlates with the new current paradigm of transition to the sixth technological order and informatization of processes, where advanced knowledge is the fundamental variable, served as a reason to rethink the paradigm of the education system. Considerable attention is paid to the justified necessity of using the competence-based approach as a component of the technologies for building an effective mechanism of competence-oriented personnel development. The article develops an evolutionary chronological map of the development of scientific schools with different interpretations of the meaning and role of competencies as a variable within the framework of personnel management, as well as the notional starting point of the Russian direction of the competence-based approach. The article identifies a number of problems caused by the lack of common views and interpretations of the theoretical and methodological aspects of the competence-based approach. Based on the results of the study of the genesis and development of the competence-based approach, a comparative analysis of the main schools and directions was made.

1 Introduction

Ensuring a high level of professionalism and the quality of human capital has always been one of the priorities in the formation of drivers of economic growth and improving the competitiveness of economic entities. However, the recently actualized economic paradigm determines new imperatives that increase the importance of strategies for building human resources and creating an effective structure and composition of human capital within organizations. Thus, the aggravation of the globalism crisis, coupled with the growth of geopolitical instability, and the subsequent introduction of anti-Russian economic restrictions, moderated by foreign states, became a catalyst for the strengthening of multiple structural market imbalances, which forced the transition to a qualitatively new model of ensuring the sovereignty and economic stability of the country. It was based on the principles of rationalization of economic processes, as well as the gradual reorientation of the national economy towards the prioritization of high-tech, knowledge-intensive industries based on the effective convergence of material resources and human capital, which was also reflected in the framework of the “the Strategy of economic security of the Russian Federation

for the period up to 2030”, where one of the key areas of its implementation is the development of the human potential of the country [1].

Within the framework of scientific research and the works of Russian and foreign scientists, considerable attention has been paid to the competence-based approach and technologies for building an effective mechanism for competence-oriented personnel development. So, since the formation of this approach to the present, its methodology has been formed on the basis of research by Western scientists, including R. Boyatzis, J. Winterton, F. Delamare, D. McClelland, K. Levy-Leboiler, G. Le Boterff, P. Merle, R. Mills, J. Raven, Lyle M. Spencer, Spencer Signe M., E. Stringfellow, R. White, J. Flanagan, G. Cheatham, G. Chivers.

In the study of the role of knowledge as a component of the formation and development of professional competencies, the works of the following domestic and foreign scientists were used: L.Yu. Andreeva, N.I. Antonov, B.I. Bortnik, U. Bukovits, K. Wiig, A. Hamilton, T. Davenport, P. Drucker, V.N. Knyaginina, E. Kofman, B.Z. Milner, A. Miroshnichenko, I. Nanock, C. Prahalad, L. Prusak, M.K. Ruminez, B.V. Salihov, I.S. Salihova, P. Senge, N.Yu. Stozhko, N.P. Sudakova, H. Takuechi, R. Williams, A.F. Tuzovsky, P. Fadeev, R.

* Corresponding author: bsmbeton@mail.ru

Florida, G. Hamel, D.D. Tsyrenov, S.V. Chirikov, V.Z. Jampol'skij.

In the modern post-industrial society, the socio-economic paradigm is being modified, which determines the transition from the material basis of the economy to the basis of “information-knowledge”, thereby increasing the role and importance of human capital in the creation of added value of goods and services through increased labor productivity and the implementation of innovative technologies and production methods, providing the most significant competitive advantages of the organization. “In an increasingly non-linear world, only non-linear ideas create wealth – radical innovations that have the power to change consumer expectations, industries, and the foundations of competitive advantage” G. Hamel [2].

With the current dynamism of the external and internal environment, management concepts should be based on the principles of permanent operational regulation and adaptation through changes in strategic vectors, structures, methodology, and management tools. The aggravation of the volatility of market conditions actualizes and increases the priority of qualitatively new factors characterizing successful organizations. So, if in conditions of stability and economic growth the key competitive characteristics were the stability and conservatism of the organizational structure and business processes, in modern conditions these parameters can negatively affect the activity, thereby putting forward new requirements for proactive adaptability to potential changes and threats of the environment [3]. It is precisely such mobility and efficiency in organizational activities that human capital can provide through the integration of the most modern methods and tools into its management system, among which the most relevant and promising are the concepts of personnel management based on a competence-based approach.

The competence-based approach together with the basic concept of “competence” are relatively new in the Russian practice of personnel management, training of specialists and science, however, in a fairly short period of time, its role as one of the fundamental approaches in the management and development of human capital has begun to increase. The emergence of this approach is due to the orientation of the Western economic model towards the formation and maximization of investment expectations from personnel training in the form of a subsequent increment in the income component. In this regard, the methodological foundation of the competence-based approach is built “from the bottom line” – from the result, i.e., it determines human behavior through the implementation of individual human capital, which includes intelligence, knowledge, skills, experience, personal characteristics, which together, thanks to emergence, ensure the implementation of productive work in accordance with certain goals [4].

The study of Western scientific schools of the competence-based approach makes it possible to implement a comparative analysis of interpretations and its methodological content in order to identify the advantages and disadvantages of these approaches, allowing aggregating the most relevant solutions for modern Russian practice of personnel management. The results of this analysis form the basis of the methodological apparatus used in the development of the human capital development system in this study.

2 Materials and Methods

Currently, all fundamental scientific works in the field of competence-based approach and its development are generally attributed to two main scientific schools, which are characterized by differences in interpretations of the meaning and role of competencies as a variable in the framework of personnel management [5].

1. The American School of competence-based approach is focused on the identification of competencies that have the highest degree of correlation with effective work. This approach is also defined as “behavioral”, because within its framework, the definition of “competence” refers to a number of personality qualities, skills, abilities, the selection and formation of which are the highest priority for achieving the highest performance in accordance with behavioral patterns formed on the basis of standards of the best performers in this profession.

2. The European school, unlike the American one, has gone through a number of stages of evolution, changing the content of theoretical and methodological parameters, and therefore the competence-based approach is decomposed into three directions: a “functional” approach and practical application of competencies (Great Britain), a “mixed” approach combining behavioral and functional aspects (France), a “multidimensional” approach focused not only on achieving efficiency in the implementation of functions, but also on the development of the individual and society (Germany, Austria) [6].

As we see it, it is on the basis of the European school, to a greater extent, the competence-based approach has been developed in the Russian educational environment, as well as in personnel management, however, a unified concept in domestic science and practice in this matter has not been formed yet, which makes it impossible for it to have no alternative assignment to one of the directions.

The evolutionary chronological map of the development of these schools, as well as the notional starting point of the Russian direction of the competence-based approach, is shown in Fig. 1.

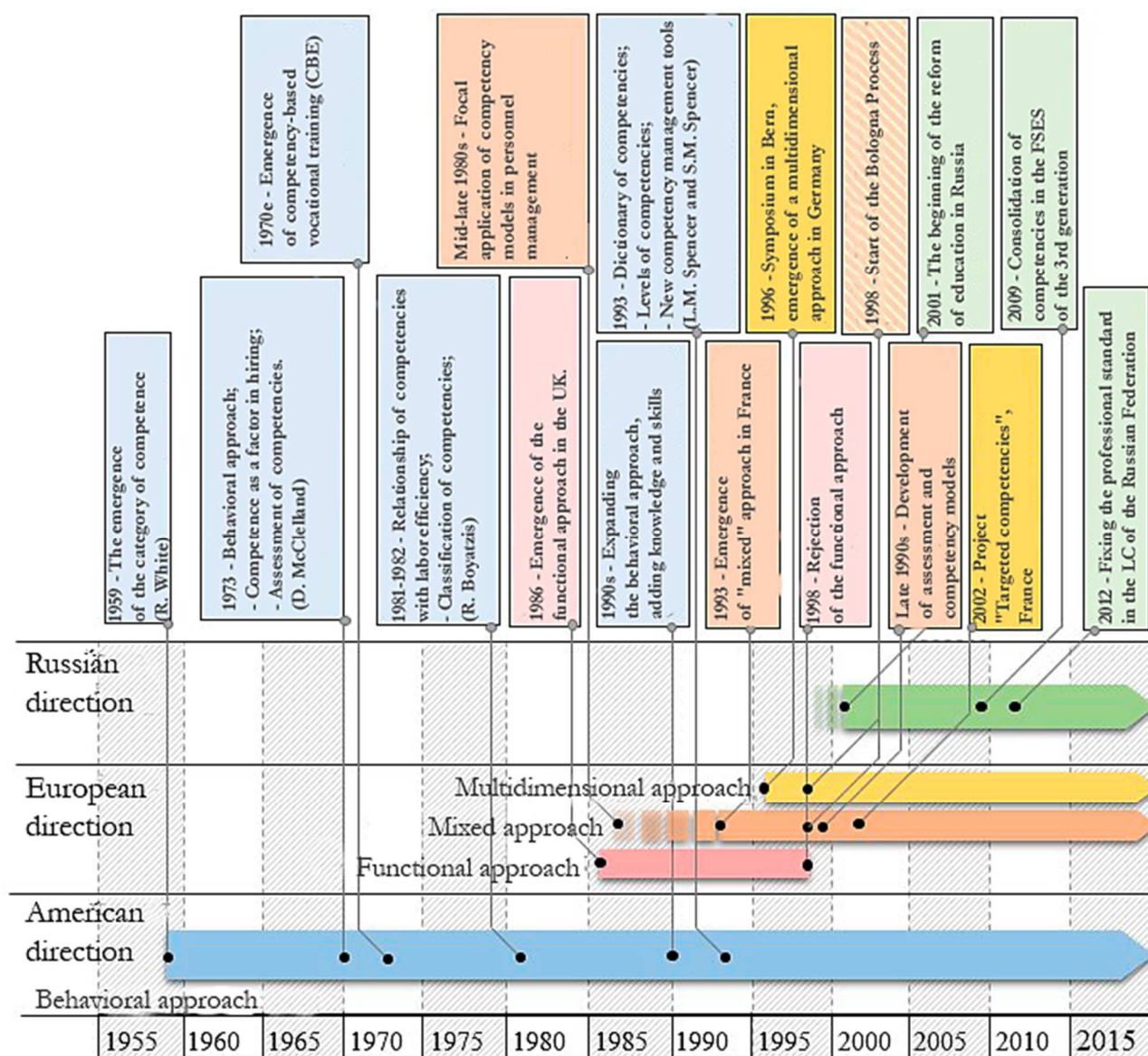


Fig. 1. Chronological map of key events in the development of the competence-based approach in the context of schools.

Modern science connects the moment of the competence-based approach emergence with the introduction into scientific circulation of the category “competence”, first described in 1959 by the American psychologist R. White. The scientist defines this category as the ability of an organism to influence the environment and carry out effective interaction through a set of personal abilities most closely related to high performance in work, formed through training in conjunction with a motivational component [7].

Then the study of competencies received a fundamental development thanks to the works of D. McClelland. An American psychologist in 1973 considered competencies from the social psychology standpoint [8], also put forward a theory about the importance of motivation and competence for the professional, economic and social development of individuals and society [9]. McClelland D. is credited with the role of the founder of the behavioral competence approach, the emergence of which was due to the imperfection in the early 70s in the USA of the

system of incoming certification of applicants when hiring them, which was based on academic assessments and the use of tests to identify the level of general abilities and intelligence, which did not give a clear picture of the potential effectiveness of the employee, thereby offering competence as a valid criterion for selecting effective performers and tool for their differentiation from the average. Based on the results of the best performers, McClelland considered competencies as personality traits based outside cognitive abilities that determine the most effective behavior. In the context of the activities of diplomats, D. McClelland attributed to such competencies:

- interpersonal and social receptivity;
- predictive abilities;
- understanding the motives of other participants in the interaction.

David McClelland developed a method of behavioral event interview (BEI) for identifying, assessing competencies, and establishing their relevance to job

functions. The method was based on the analysis of the three most significant successes and three failures in the activity of an employee, and in its essence represented the synthesis of the method of critical incidents by J. Flanagan [10] and a Thematic apperception test, previously used as a tool for studying motivation [11]. Subsequently, the BEI method was tested in the consulting company McBer and Company and then was adopted as a relatively valid and effective method of evaluation. It is also important to note that the psychologist for the first time noted the importance of developing competencies, actualizing the importance of education and trainings for this purpose.

At the same time, in the 1970s in the USA, a separate direction in training is emerging, focused on competencies as a result – competence-based education (CBE).

The American school of competence-based approach received a significant driver in the development in 1981–1982 thanks to the works of R. Boyatzis, which became a continuation of the developments of D. McClelland. Richard Boyatzis directly linked the category of “competence” with work efficiency, relying on the works of D. McClelland when developing a managerial competencies model. Having defined competencies as factors based on which the performance of work can be graded from low to high, Boyatzis structured them into “threshold” and “differentiating competencies” according to the degree of influence on the result [12].

Having carried out a cluster analysis of the formulated competencies, R. Boyatzis divided them into 5 key groups, which included 19 competencies, while 2 more competencies – “specialized knowledge” and “memory” were not included in any of the groups. Subsequently, these exceptions will lead to the emergence of the “meta-competencies” concept. In his model, the scientist attributed to competencies a complex of various non-correlating characteristics, such as efficiency orientation, accurate self-assessment, logical thinking, spontaneity, self-control, interpersonal trust, etc. In his work, R. Boyatzis emphasized the importance of a competence-based approach as a tool for predicting the results of staff performance and achieving goals for personnel development.

In 1989–1993 the concepts of D. McClelland and R. Boyatzis were developed in the work of Lyle M. Spencer and Signe M. Spencer, who, based on 286 previously developed models of competencies, formulated a dictionary of competencies, where, in addition to defining this term, a scale of competence levels was developed in accordance with the intensity of the manifestation of certain behavioral patterns associated with the most effective work performance. As a significant result, it is worth noting the development of management tools by scientists within the framework of the personnel policy of organizations based on the competence-based approach [13].

Since the 90s of the XX century, the USA has received a significant impetus in the development of vocational training based on a competence-based approach, the composition of competencies has also

expanded, because of which knowledge and skills have been added to the set of behavioral characteristics [14].

In Europe, the focus on the competence-based approach was due to the growing shortage of skilled labor. In order to rationalize the educational processes, the National Council for Professional Qualifications in the UK in 1986 developed a unified national system of industrial qualifications, according to which a competence-based approach was introduced into the field of vocational education, which gave rise to a “functional” direction [15]. This approach was characterized by the formation of professional standards of work, and competencies were a set of knowledge and skills required for these works, which determined the necessary behavior of employees leading to the implementation of these standards at a given level. Later, in 1998, G. Cheetham and G. Chivers analyzed the existing approaches and expanded the concept of professional competence to include such components as personality, motivation, the scale of the organization, the environmental factor, indicating that these variables can also affect labor productivity [16]. It is important to note that the prerequisites for the expansion of the methodological base of the competence-based approach in the English scientific community arose in 1984, when the psychologist J. Raven in his work gave a detailed interpretation of competence as a phenomenon based on a large number of components, some of which belong to the cognitive sphere, and the other to the psycho-emotional one, and together they determine various models of effective behavior. In the list of these components, the author draws attention to the categories of “readiness”, “ability”, “confidence”, “responsibility” [17].

The French direction of the competency-based approach began to emerge in the mid-1980s, formed as a natural reaction to the actualized need for the restructuring of national enterprises. In 1990, pilot practices of applying various models of competencies in management practice necessitated a common unified introduction of a competence-based approach to the human capital management system. In this regard, since 1993, the development of a competence-based approach has been actively developed and supported by the National Employment Bureau (ANPE). The competence-based approach in the French interpretation was formed as “mixed”, combining the developments of the behaviorist American school and the English functional direction. The most key works of this direction belong to G. Le Boterff (1994), K. Levy-Leboiler (1996), P. Merle (1996) [18].

Since the end of the 90s, state authorities have initiated the development of competence assessment models for the purpose of their application in the educational environment in the training of specialists, then these tools are introduced into the real sector of the economy, practices for building a remuneration system based on the assessment of competencies emerged. In 2002, the Movement of the Enterprises of France (MEDEF) initiates the project “Target Competencies”, the task of which is to comprehensively popularize the

competence-based approach among the enterprises of the country [19].

The French approach defines the following characteristics as competencies: knowledge, functional competencies, behavioral competencies in the form of individual behavior patterns in the workplace [20].

In Germany, the competence-based approach was introduced in 1996 as part of the vocational education system. Based on the results of the symposium held this year “Key competencies for Europe” in Bern, a list of competencies was formulated, which are then typified in curricula, divided into vocational, personal and social. Professional and technical competencies determine the ability to perform professional tasks, solve problems and evaluate the results obtained in the context of the goals set. Personal competencies determine the ability to cognitive perception, analysis, assess possible ways of personal development within the framework of individual, work and social life, and also include such psychological characteristics as confidence, responsibility, independence. Social competencies determine the ability to effectively interact between members of society, identify motives and threats, readiness and ability to maintain communication links. Cognitive competencies were also of particular importance, which were considered as the basis for the formation of professional and technical ones. The Austrian direction is similar to the German one and also divides competencies into four key groups: subject, cognitive, social, and personal.

An important event in the development of the competence approach in education for Europe (and then for Russia) was the signing in 1998 by the Ministries of Education of Germany, France, Great Britain, and Italy of the “Sorbonne Declaration”, initiating the Bologna process, which introduced standardization in education for different countries, legislated new academic degrees and reoriented the educational system from the “knowledge basis” to the competence one.

In Russia, the introduction of the competence-based approach is due to the integration of Western models and technologies of human resource management into the domestic business environment. At the same time, in the educational environment, the competence-based approach began to be seen as a tool for ensuring a dialogue between universities and employers. In 2001, according to the “Concept for the Modernization of Russian Education for the Period up to 2010”, the task of higher education is determined by the need to form a set of key competencies – knowledge, abilities, skills, as well as experience of independent activity necessary to solve theoretical and practical professional tasks [21]. The development of the competence-based approach in Russia is directly related to the development of Federal State Educational Standards of the third generation, approved since 2009 [22, 29, 30].

The most significant modern works in the framework of competence-based approach development in education belong to Russian scientists V.I. Baidenko [23], A.V. Khutorskoy [24], A.K. Markova [25], I.A. Zimnaya [26].

A special role in the development of the competence-based approach in Russia is played by the consolidation of the concept of “professional standard” in the Labor Code of the Russian Federation by the Federal Law of 03.12.2012, which is a set of requirements for the qualification of an employee for the implementation of his professional activity [27, 31, 32]. Professional standards are aimed at linking the spheres of work and vocational education, defining the necessary knowledge and skills that an employee must possess in order to perform labor functions. These requirements should become the target settings in the educational process for educational institutions in the formation of curricula of relevant specialties.

3 Results and Discussion

Due to the comparative novelty of the competence-based approach for Russian science and practice, several problems currently arise from the lack of common views and interpretations of the theoretical and methodological aspects of the approach.

The difference in the qualitative composition of competencies in the educational environment and the business sphere. Thus, the Federal State Educational Standard in the direction of training “Economics” identifies such competencies as general cultural, aimed at the formation of socialization skills of students, general professional, which are fundamental for performing a specific type of work, and professional, implemented directly at the workplace within the framework of professional functions [28]. Meanwhile, in the real sector, competencies are classified into corporate, managerial, and professional.

The difference in approaches to assessing the role of competencies. For higher education institutions, competencies are the standard of the result of activity, which is directly defined within the framework of the educational standard of higher education. Organizations consider competencies as a human resource that determines the implementation of business processes, the achievement of strategic goals and the provision of competitive advantages.

Due to the comparative novelty of the competence-based approach for Russian business, as well as conservative sentiments focused on maintaining an established organizational environment, its implementation by companies is associated with a lack of systematic application. In most cases, the corporate sector considers it only as a tool for effective recruitment and evaluation of personnel, neglecting it when building a personnel policy, managing, and developing the human potential of a company.

Lack of direct interaction between universities and organizations in the development and filling of competencies, as well as the assessment of the results of their formation. At the same time, the professional standards being developed define a list of knowledge and skills that do not fully correlate with those competencies specified in the Federal State Educational Standard of Higher Education for the relevant directions of training.

For example, the professional standard of an insurance broker as one of the requirements for skills determines the implementation of risk management procedures, at the same time, the Federal state educational standard of higher education in the direction of training “Economics (bachelor's degree level)” in the context of insurance

activity does not regulate the availability of appropriate competence because of mastering the program.

Based on the results of the study of the genesis and development of the competence-based approach, we will make a comparative analysis of the main schools and directions. The results of the study are presented in Table 1.

Table 1. Comparative analysis of the directions of the competence-based approach.

Country	Direction	Competence structure	Characteristics of the approach
USA	Behavioral approach	— psychophysical personal and behavioral characteristics. — motivation. — knowledge and skills.	<i>Typical features</i>
			1. Focus on efficiency and high performance in the context of personality. 2. Search for the best performers. 3. Correlation with motivation.
			<i>Disadvantages</i>
			1. The lack of differentiation between personal characteristics and professional skills within the category of “competence”. 2. Limited ability to assess the impact of personal characteristics on labor efficiency.
Great Britain	Functional approach	Skills and abilities required within the designated qualification	<i>Typical features</i>
			Strict applied character in the use of the competence-based approach.
			<i>Disadvantages</i>
			1. Limited interpretation of the composition and place of competencies as a qualification factor. 2. The approach considers skills and abilities as the only significant factor in the implementation of labor functions.
France	Mixed approach (synthesis of behavioral and functional approaches)	— theoretical knowledge; — functional and procedural competencies; — cognitive and behavioral competencies.	<i>Typical features</i>
			1. Focus both on the personal characteristics of the individual and on the development of models of organizational competencies. 2. An approach covering a wide range of employee characteristics.
			<i>Disadvantages</i>
			1. Limited ability to assess behavioral and cognitive competencies. 2. The identification of knowledge and competencies contradicts the activity-oriented competence approach
Germany, Austria	Multidimensional approach	— professional and technical competencies; — personal competencies; — social competencies; — cognitive competencies.	<i>Typical features</i>
			1. The connection of the competence-based approach with humanistic concepts of personality development. 2. Expanding the role of the approach to the technology of society development.
			<i>Disadvantages</i>
			The complexity of the approach limits the possibilities of its application in personnel management in its pure form
Russia	–	In personnel	<i>Typical features</i>

		management: — personal and cognitive competencies; — functional (professional and managerial) competencies. In education: — general cultural; — general professional; — professional;	Accumulation of theoretical and methodological aspects of Western approaches.
			<i>Disadvantages</i>
			1. The lack of a unified interpretation by the scientific, pedagogical and business community of the category “competence” and the competence-based approach. 2. Limited dissemination of the competence-based approach among organizations. 3. Lack of consistency in the competence-based approach, its application exclusively in the area of recruitment and evaluation of personnel.

4 Conclusion

In this regard, each of the directions of the competence-based approach, formed as a response to actual challenges from the market to society and business entities, is characterized by specific features that are relevant to the economic situation of the country of origin. In Russia, the competence-based approach has passed the phase of its formation and is now actively adapting to the current realities of the economy. In this regard, it is important to understand that blind copying of the Western experience of the competence-based approach and the rough implementation of an alien methodology can negatively affect the expansion of human potential, leading to its suppression both in the context of business entities and society as a whole. The competence-based approach can become a transparent functional technology for the development of human capital if its methodological apparatus meets the target settings of application, while the author does not deny the possibility of adapting certain elements of the Western schools of the competence-based approach to Russian realities. In this regard, the study and modification of the theoretical and methodological apparatus is relevant and is subject to deeper study in the future.

Let us formulate key conclusions based on the results of the study of theoretical and methodological aspects of competence-oriented development of human capital presented in this article.

The main schools and areas of competence-based approach, including Russian ones, were formed as a reaction to the current challenges of the external environment, responding to the priority social and economic needs of the countries of origin at that time. Meanwhile, in Russia, the practice of competence-based approach application, based on the compilation of elements of American and European methodological schools, insufficiently adapted to Russian realities, causes their partial inconsistency, and does not fully correspond to the key tasks of human capital development due to the lack of uniform standards of theoretical, methodological, and instrumental base for the operationalization of the approach in the educational and business environment.

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