Review Article

Competitive Higher Education Teacher for the Digital World

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ABSTRACT

The world we live in today holds some uncertainties. The processes of automation, big data, the digital environment, global crises, and the interconnectedness of international society are changing common technological patterns and the educational system. Among the essential features of competitiveness of teachers in higher education are mobility, digital competencies, adaptability, participation in scientific networks and projects, and continuous acquisition of new technological skills. For this reason, teachers must continuously develop their professional skills to remain competitive and create professionals in higher education. Current conditions are fostering global demand for teachers who produce pedagogical and scientific developments.

This article aims to solve the problem of defining the structure, content, and requirements of scientific and methodological support for higher education teachers' competitiveness in a digital world in the context of global challenges and risks. Theoretically, the problem is defined by the need for new approaches to explaining the concept of teacher competitiveness and the need to develop a psychological and teaching methodology for training and developing teacher competitiveness. In practice, we conclude that researchers must develop personal, professional, procedural, and technological enhancements to support higher education faculty competitiveness in a digital world.

Keywords: higher education, competitive teacher, digital economics, global risks & challenges, network-based education, social profile, digital transformation, competencies, digital world

INTRODUCTION

Against the backdrop of modern technological challenges, the main goals of the Government of the Russian Federation are outlined in the decree of the President of the Russian Federation dated May 7, 2018, No. 204, "On the National Goals and Strategic Objectives of the Development of the Russian Federation for the Period until 2024" are to accelerate the technological development of the country and increase the number of organizations implementing technological innovations (Decree of the President of the Russian Federation, 2018). The importance of developing high-tech areas is determined by the possibility of achieving results and training the skills of specialists needed to transition to new priorities for the scientific and technological development of the Russian Federation to respond to significant challenges. The social, economic, and geopolitical changes strongly influence the education system. The goal of the development of the national education system today is to ensure its global competitiveness. The intellectual potential, the level of development of science, and high technology are the components that make the country's economy competitive in the world.

Moreover, future education issues are becoming an increasingly important problem for teachers. At the same time, the point of creating a resource-based educational environment and developing the architecture of the required teacher persona competencies for the digital world is coming to the forefront of the goals of academic scholarship. The results of the study provide an opportunity to make a timely assessment of the digitalization risks of the education system due to scientific and technological development, as well as to provide scientific and methodological support for higher education teachers to work in the digital world. The results help to ensure the readiness of the country in general for the existing and emerging grand challenges based on the integration and application of new knowledge and the effective use of human potential.

LITERATURE REVIEW

Many studies have investigated higher education teachers' competitiveness in the current literature. For example, Muñoz Carril et al. (2013) sought to identify and systematize faculty roles. Their results showed that faculty members had different knowledge and experience in using e-learning. The results also showed that the faculty members were novices in the intensive use of ICT, especially in their subjects' virtualization projects. In addition, the results showed that content writing is probably one of the first things teachers do when they first engage in e-learning. In a recent review study, Basilotta-Gómez-Pablos et al. (2022) conducted a systematic review of the literature to identify, analyze, and classify articles published between 2000 and 2021 on digital literacies and digital skills of teachers in the higher education context. They studied 56 articles and evaluated them in depth. The results show that teachers' self-assessment and reflection on digital skills predominate in the research. Teachers acknowledged that they have low or medium-low digital literacy and lacked specific competencies concerning the assessment of pedagogical practice.

In another research, Novianti and Nurlaelawati (2019) investigated the efforts of faculty members with non-educational backgrounds at a sizeable Indonesian teacher training college to develop their pedagogical competence. The survey results described faculty members' efforts in developing their pedagogical competencies, perceptions, pedagogical development, and challenges. In another study, Barrera et al. (2021) investigated how the virtual teaching campus on faculty competencies at a university in Peru. The results show with 95% confidence that the use of the virtual teaching campus has a high positive significant impact on the competencies of the university teachers.

More recently, Močinić et al. (2022) aimed to examine the attitudes of university teachers toward the competencies required to work at a university. The results showed that university teachers believed that the competencies related to academic leadership and governance are the least important because they are very complicated and challenging roles that involve high-stress levels and additional workloads. The results show that teachers have doubts about the impact of educational and psychological training on the quality of university teaching. They attach great importance to this training but consider little to the existing formal forms of acquiring teaching skills.

In Latvia, Troskova and Katane (2020) attempted to provide a theoretical basis for academic staff competitiveness from an educational perspective by considering the various trends and drawing on

conceptual approaches in personal/professional competitiveness research. They identified two trends for educators. The first trend was individual competitiveness based on transfers from business and management sciences, with particular attention to professional marketability and employability as a significant manifestation of competitiveness. The second trend was the new paradigm of competitiveness in educational sciences. In their other studies, Katane and Troškova (2021) explored the interdisciplinary approach, including the transfer approach from economics to education sciences, to theoretically underpin the competitiveness of higher education teachers interacting with the higher education environment across contexts and levels and the competitiveness of universities. Their results show that the competitiveness of faculty members can be considered from two aspects:

1. as a set of different characteristics (qualities) considered as competitive advantages and
2. as characteristics of competitive activities manifested in the higher education environment.

In addition, certain aspects of the development and formation of a competitive professional and higher education system were discussed by previous research conducted by Belonovskaya and Nevolina (2017), Gilmeyeva (2020), and Valeyeva (2019). The main ideas regarding teachers' competitiveness consist of the following issues:

1. Competitiveness as multilevel individual personality traits such as goal setting, value orientations, independence, stress resistance, continuous professional growth, and social competition (Bayanova, 2019, 2020; Bayanova & Zakirova, 2020; Cherdymova et al., 2020; Kalinina, 2021; Ryabinina et al., 2021; Sinyagina & Artamonova, 2019; Valeyeva, 2019).

2. Competitiveness as a strategic personality trait or strategic value of a teacher's personality reflects the need for professional training to be ahead of the requirements of pedagogical practice and suggests positive internal and external competition in the educational process (Bibik, 2010; Chuprova, 2004; Lebedev, 2012; Saifullina & Valeeva, 2019).

3. A teacher's competitiveness is a set of required knowledge and action competencies that ensure effective and efficient pedagogical activity, necessary for the formation of high student achievement and increasing the teacher's labor productivity (Demyanchuk, 2020; Evplova & Zareeva, 2017).

4. The exploration of digital literacy and teachers' digital competence as factors that enable the technology integration of technology (Cattaneo et al., 2022; Kilbrink et al., 2020; Novella-García & Cloquell-Lozano, 2021; Sillat et al., 2021; Tugun et al., 2020). The researchers identify the four most important factors contributing to the effective integration of digital technologies in the classroom. These are attitudes and beliefs, the ability to use technology, self-efficacy, readiness, access to equipment, software, and infrastructure, and teaching practice.

5. Research related to digital footprint analysis to assess the quality of the digital environment (Shipunova et al., 2021).

6. Studies have addressed social and psychological resources of teacher personality in the context of the digitalization of the educational system. These are teacher motivation and attitude values: Backfisch et al. (2021) and Lachner et al. (2019, 2020); the problem of college teachers' adaptability: Howard et al. (2021), Weigold and Weigold (2021a; 2021b), and Weigold et al. (2021); and the problem of psychological barriers to the adoption of digital learning technologies: Ranellucci et al. (2020).

7. Studies have addressed the impact of digital education on teachers' activities (Aagaard & Lund, 2020; Damsa et al., 2021; Giovannella & Passarelli, 2020; Nambiar, 2020; Qarkaxhja et al., 2021; Tartavulea et al., 2020). Scholars have indicated that digitalization allows teachers to expand their pedagogical repertoire and challenge the status quo. On the other hand, some problems with online learning arise from the forced mobilization of digital competencies and the development and demonstration of successful learning experiences in a problematic and time-limited context.

Research highlights higher education teachers' gender and age-related characteristics in shaping and developing their competitiveness in digital education (Gebhardt et al., 2019; Ghomi & Redecker, 2019; Lucas et al., 2020). The authors showed that gender- and age-related characteristics influenced the development and formation of teachers' digital literacy development and formation.

PROBLEM STATEMENT

The processes of automation and greening, big data and the digital environment, the complexity of global crises, and the interconnectedness of international society are changing common technological patterns and the educational systems that support their development. Currently, the higher education and vocational training sectors and the development of network-based education models operate on large supranational digital platforms (such as Coursera, Netology, Skillbox, etc.). The web-based learning spaces offer a large number of training programs that are flexible and can adapt to the needs of the labor market. In contrast, distance learning technologies allow students to learn from any teacher, regardless of their location or country of residence.

Globalization and the digitization of the world are transforming educational systems, and in particular, the system of higher vocational education, into a stream of uncertain situations, bringing into focus the question of teacher competitiveness and the search for resources, methods, and tools to achieve professional and individual fulfillment under conditions of ambiguity. Among the essential characteristics of competitiveness of teachers in higher education are mobility, digital competencies, adaptability, participation in scientific networks and projects, continuous acquisition of new technological skills, etc. For this reason, teachers need to continuously develop their professional skills to remain competitive and stand out in the higher education market. For the first time in the history of higher education, conditions stimulate the global demand for a teacher as a brand that brings financial, pedagogical, and scientific gains. This study aims to define the structure, content, and conditions of scientific and methodological support for the competitiveness of higher education teachers in a digital world.

METHOD

In this research, two approaches were used by researchers to collect data. The first is theoretical methods, including analysis, synthesis, generalization, and comparison of the literature and including an analysis of the legal documents of the Russian Federation, international documents regulating the procedure for the professional activities of higher education teachers, and local regulations of higher education institutions. The second is empirical methods, including observation, testing, questioning, interviewing, and oral and written questioning. To study the socio-psychological profile of the personality of a competitive higher education teacher, psycho-diagnostic tools were used by researchers. These included intelligence tests, personality tests, ability tests, and tests of professional activity.

Data Analysis

In the data analysis, researchers did use descriptive statistical indicators, relative and average values when determining the degree of objectivity of the obtained empirical data, the partial coefficient of differentiation of the activity of participants in the collective expert assessment when determining the objectivity degree of the obtained empirical data and statistical tests to determine the level of approximation of the studied indicator by the factors included in the model at the stage of processing empirical data. According to the Federal Program (2017) "Digital Economy of the Russian Federation," approved by order of the Government of the Russian Federation No. 1632-r dated July 28, 2017, the end-to-end digital technology "neurotechnology and artificial intelligence" was used in the study, in particular, the method of constructing an artificial neural network of direct distribution as the basis of a web system for the visual representation of the competitiveness development of a particular higher education teacher.

Data Collection

The first phase is the search and preparation phase. The general work plan for the first phase: develop a detailed research program, including the rationale for the problem, topic, objective, hypotheses, and sample population of the study. The program describes the tools used to conduct the study, including digital tools. Conclusion of agreements on cooperation and interaction in the implementation of the research program with universities from all federal districts of the Russian Federation. Determination of critical competencies required considering the principles of the development of living systems and a structural and content model of the essential competencies for a higher education teacher. Analysis and description of the structure and

composition of data, sources, and data mining tools to create a teacher's socio-psychological profile and regulatory mechanisms for working with data. We elaborated the terms of reference for designing a web platform for teachers' professional and personal development and developing a prototype based on it. Development of tools using the teacher's digital footprint collected and processed from open sources and professional information systems with information about the teacher's scientific, pedagogical, and social activities. We conducted 16 expert and analytical seminars with teachers of higher education institutions from eight federal districts and collective expert evaluation on the crowdsourcing platform in the field of education.

RESULTS

Results of Work at the First Stage

1. A detailed research program, no fewer than three pp.

2. A total number of 24 agreements on cooperation and interaction for the implementation of the research program with universities from all federal districts.

3. Scientific and theoretical substantiation of the concept of "competitiveness of a higher education teacher" taking account of the development of the digital world and as a set of factors influencing the development of the economy, no fewer than two pp.

4. Scientific and theoretical substantiation of the structural and content model of the critical competencies of a higher education teacher, based on the principles of the development of living systems, no fewer than three pp.

5. A description of the structure and composition of data, sources, and tools for data mining to form the socio-psychological profile of teachers, regulatory mechanisms for working with data, no fewer than three pp.

6. A program and tools for social and psychological diagnostics, no fewer than 1.5 pp.

7. Terms of reference for designing a web platform for teachers' professional and personal development, no fewer than two pp.

8. A prototype of a web platform for the professional and personal development of teachers, which contains:

    a. posted a structural-content model of the critical competencies of a higher education teacher,

    b. one can register and get one's account, and

    c. to form a profile from open data and information systems data containing information about the scientific, pedagogical, and social activities of a teacher.

9. Report on 16 expert and analytical seminars with teachers of higher education institutions in 8 federal districts, no fewer than three pp. No fewer than 100 people are expected to participate in each expert-analytical conference.

10. Report on the collective expert assessment to be held on the crowdsourcing platform in the field of education "Preobrazovanie" (https://www.preobra.ru) with teachers of higher education institutions from eight federal districts at least 1.5 pp. No fewer than 1,000 people are supposed to participate in the collective expert assessment.

Second Stage: Experimental and Analytical Stage

Finalization of the structural and content model of the critical competencies of a higher education teacher, based on the principles of living systems development, the necessary changes were made on the web platform for the professional and personal development of teachers. Development of instruments for social psychological diagnostics includes the possibility of their application and analysis of the obtained data on a web platform for teachers' professional and personal development.

We conduct social and psychological diagnostic tests among college teachers from all federal districts of the Russian Federation using the developed digital web platform toolkit for teachers' professional and personal development. The results of the socio-psychological diagnostics of teachers were analyzed. Analysis

of socio-psychological profiles of teachers in comparison with the structural-content model of critical competencies of a college teacher. Determination of the basic requirements for the development of teachers with different socio-psychological profiles. Refinement of the web platform for professional and personal development of teachers in terms of automated formation of the socio-psychological profile of a teacher, correlation between available teacher data and structural-content model of critical competencies of a college teacher, necessary conditions for the development of competitiveness of teachers. Conducting 16 expert and analytical seminars with higher education teachers from 8 federal districts and general expert evaluations on the crowdsourcing platform in the field of education "Preobrazovanie" (https://www.preobra.ru):

1. The results of the analysis of the socio-psychological profiles of teachers.

2. Primary conditions for the development of teachers with different types of socio-psychological profiles.

3. Diagnostic tools of the web platform for teachers' professional and personal development.

Expert and analytical seminars are planned to be held in a mixed format. The collective expert assessment is designed to be carried out in an online form. Representatives of businesses, industries, and organizations of related economic sectors are expected to be invited to expert and analytical seminars and carry out a collective expert assessment.

Results of work at the second stage

1. Report on elaborating the structural and content model of the critical competencies of the principles of the development of living systems and making the necessary changes on the web platform for teachers' professional and personal development, no fewer than 1.5 pp.

2. Description of tools for socio-psychological diagnostics and a mathematical model for analyzing the data obtained on a platform for teachers' professional and personal development, no fewer than three pp.

3. Analytical report on the results of socio-psychological diagnostics of 3,000 teachers from 24 educational organizations in 8 federal districts of the Russian Federation, no fewer than three pp.

4. Analysis of the socio-psychological profiles of teachers in comparison with the structural-content model of the critical competencies of a higher education teacher, specification of the mathematical model, no fewer than five pp.

5. Determination of the primary conditions for the development of teachers with different socio-psychological profiles, no fewer than two pp.

6. Report on 16 expert and analytical seminars to be held with teachers of higher education institutions from 8 federal districts, no fewer than three pp. No fewer than 100 people participated in each workshop.

7. Report on the collective expert assessment held on the crowdsourcing platform in the field of education "Preobrazovanie" (https://www.preobra.ru) at least 1.5 pp. A total number of 1,000 people took part in the collective expert assessment.

8. Report on the refinement of the web platform tools, including the mathematical model of data analysis, no fewer than two pp.

The Third Stage: Control and Summarizing

Meta-analysis of foreign and domestic studies on the impact of the activity of a higher education teacher on economic development to determine the factors in the teacher's competitiveness that influence the economy and the development of a single continuum of the size of the effects from the selected elements.

It fostered collaboration with online educational resources and universities with high-quality educational programs for professional and personal teacher development. Devising teacher development scenarios and determining their impact on the economy using agent-based mathematical modeling methods and creating a system of automated recommendations for the development of teachers in different development scenarios in the form of changes in working conditions, educational programs, career strategies, possible collaboration, and network projects. Refining tools and a mathematical model of the web platform for the professional and personal development of teachers, taking account of the created teacher development

scenarios, the factors in the competitiveness of the teacher that influence the development of the economy, and recommendations for the development of teachers under different systems in the form of changes in working conditions, educational programs, career strategies, possible collaboration, and network projects.

Testing the sophisticated tools and mathematical model of the web platform for the professional and personal development of teachers in educational institutions of higher education. Holding 16 expert and analytical seminars with teachers of higher education institutions from eight federal districts and collective expert assessment on the crowdsourcing platform in the field of education "Preobrazovanie" (https://www.preobra.ru) on the following issues:

1. The results of the research meta-analysis and determining, on its basis, the factors in the teacher's competitiveness that influence the development of the economy and a single continuum of the size of the effects from the selected factors.

2. Teacher development scenarios and their impact on the development of the economy.

3. A system of automated recommendations for the development of teachers under different development scenarios in the form of changes in working conditions, educational programs, career strategies, possible collaborations, and network projects.

Results of work at the third stage

1. Analytical report on the results of a meta-analysis of the factors in the teacher's competitiveness and their influence on the economic development and a single continuum of the size of the effects, no fewer than three pp.

2. Report on fostering collaboration with network educational resources containing high-quality educational programs for the professional and personal development of teachers, programs for corporate training in organizations, and production facilities of the real sector of the economy and related industries, no fewer than two pp.

3. Analytical report on the teacher development scenarios and their impact on economic development, no fewer than three pp.

4. Analytical report on the system of automated recommendations for the development of teachers under different development scenarios in the form of changes in working conditions, educational programs, career strategies, possible collaboration, and network projects, no fewer than two pp.

5. Report on the elaboration of the tools and mathematical model of the web platform for the professional and personal development of teachers, taking account of the teacher development scenarios, the factors in the competitiveness of the teacher, and their influence on the economic development and recommendations in different teacher development scenarios in the form of changes in working conditions, educational programs, career strategies, possible collaboration, and network projects, no fewer two pp.

6. Report on testing the modified tools and mathematical model of the web platform for teachers' professional and personal development among 3,000 teachers from 24 educational institutions of higher education from eight federal districts, no fewer than three pp.

7. Report on 16 expert and analytical seminars with teachers of higher education institutions from 8 federal districts no fewer than three pp. Each seminar is supposed to be attended by at least 100 people.

8. Report on the collective expert assessment to be held on the crowdsourcing platform in the field of education "Preobrazovanie" (https://www.preobra.ru) at least 1.5 pp. At least 1,000 people are supposed to participate in the collective expert assessment.

9. A collective monograph on the results of work on the project (Springer/Publisher, Information Age Publishing/MDPI).

The Practical Result of the Study

The practical result of the study is a web platform for the professional and personal development of teachers, which is going to be built based on a mathematical model to encourage the competitiveness of a higher education teacher in the digital world.

In addition, the web platform aimed to compare algorithms for analyzing data found in available Internet sources with data provided by a higher education teacher himself to determine the current level of the teacher's competitiveness level and select recommendations for the optimal development of the teacher's competitiveness in current conditions subsequently. Algorithms for determining the current status of teachers' competitiveness and selecting recommendations for them are implemented using artificial neural networks based on a mathematical model for developing the competitiveness of higher education teachers in the digital world. The web platform contained a set of teacher development scenarios and recommendations for teachers' personal and professional development. Integrating existing digital educational resources and teacher development programs was built using the web system. The web platform for the professional and personal development of a teacher in the context of the digital transformation of higher education can be used by higher education institutions to carry out diagnostic tests of the development level of new competencies of teachers to determine the currently dominant development strategies, the current size of the effects from the work of teachers in an organization on the economic development, as well as possible managerial solutions to improve the level and quality of the teaching staff, to change career strategies and increase the impact on the development of the regional economy.

Scientific Novelty: Showing the Achievability of the Research Task and Obtaining the Anticipated Results

The scientific novelty of the study includes the following issues:

1. The competitiveness of higher education teachers is specified, including high-quality teaching, readiness for continuous professional development, and ability to respond to the new demands on teachers' activities through the digital economic network education and global competitiveness. The competitiveness of a college teacher is analyzed as a set of factors that influence economic development. The theoretical and methodological rationale of higher education teacher competitiveness in the digital world contributes to teacher education and work psychology theory, including continuous professional development.

2. The structural-functional model of teachers' new competencies was developed during the study and presented at two levels:

   a. The theoretical level is based on the response to the demands of society and the requirements for college teachers in the conditions of global competitiveness, on the methodology and principles of life systems and development management within short cycles and

   b. The practical level is represented by the organizational and pedagogical conditions required to promote the competitiveness of college teachers, by an aggregate of forms and technologies for developing the competitiveness of teachers and their criteria-based assessment.

3. The conditions that promote the competitiveness of college teachers are described and scientifically substantiated. These include the identification and application of the potential of the business network, the development, and support of strategies to promote the careers of college teachers, the development of customized modular training programs to promote the competitiveness of teachers, and the development of a diagnostic toolkit to evaluate the process of developing the competitiveness of college teachers.

4. A set of factors describing the correlations between teacher competitiveness and economic development, as well as a rationale for the effect size, provide mathematically sound confirmation or rejection of the hypothesis that teacher activities influence the economic development of the regions of the country and the country as a whole.

5. Scenarios for the possible development of teachers and a portfolio of guidelines for improving teachers' competitiveness and increasing their impact on the economy will be scientifically argued and mathematically calculated.

6. The study includes creating an open database on teachers' activities and based on this data, creating a mathematical model to improve teachers' competitiveness. This result accurately assesses higher education institutions' impact on the country's social and economic development. It identifies gains and shortcomings of teachers' professional development in specific regions or higher education institutions.

CONCLUSION

The scientific relevance of the study on competitive higher education teachers in a digital world is justified by the fact that the global digitalization push triggered by the COVID-2019 pandemic has accelerated the transformation of the higher education sector in all sectors of the economy, leading to the call for urgent restructuring of the professional skills of higher education teachers and the adaptation of higher education to the needs of the digital economy and digital society. This priority is included in the national policy of the Russian Federation (Decree of the President of the Russian Federation, 2018, 2020). The global challenges associated with the introduction of digital technologies demand fundamentally new demands on the role of the teacher, who must be able to act in conditions of uncertainty, volatility, and constant evolution. Among the essential functions of a college teacher in the context of digitalization are to design the forms, teaching methods, teaching tools, and instruments for diagnostic and formative assessment and, based on this, to create a local learning environment for a given course that offers students multiple development opportunities. Another function is to organize the individual and teamwork of students within a digital learning environment and to design educationally relevant communicative situations, including network communication. The other parts are to manage reflective conversations about individually meaningful experiences, train and develop students' critical thinking skills to search efficiently, select information in a digital environment, and increase student motivation.

They are integrating the virtual and actual dimensions of young digital natives, supporting their development in the real social and professional world. It is worth noting that many traditional functions of a teacher are no longer in demand in digital teaching and learning - the teacher as a knowledge broker, informant, explainer, and controller, judging students when they do not meet the requirements. Overall, multifunctional, 'convergent' professionals are in demand in digital education and other areas of the digital economy. Practice-oriented experts with experience participating in various social, industrial, and business projects are more competitive than traditional teachers with only one profession. The 'future skills' for higher education are a highly topical issue. At the same time, aspects such as the structure, content, and context of developing a competitive teacher for a digital world are coming to the forefront of academic scholarship. Regardless of the topic's popularity, consistent research on the subject is insufficient, which does not help solve the problem.

The scientific significance of the study is defined by its aim to conceptualize the studied phenomenon at a fundamentally new and deeper methodological level. The competitiveness of a college teacher is investigated based on the new requirements for teachers' activities from the digital world perspective and the professional and personal competencies teachers must acquire to be flexible, adaptable, and evolve in the new world of global competitiveness. The competitiveness of a college teacher is studied as a set of factors that influence economic development through the teacher's pedagogical, scientific, and social activities and by measuring the extent of this influence. Another critical research outcome of this study is the development of a structural, content-based model of teachers' key competencies, which is described based on the life systems methodology, i.e., its five basic principles:

1. The principle of adaptation presupposes diversity, diversification, decentralization, and multiplication.

2. Localization, which considers the initiation of cyclical processes, working with feedback systems, and the creation of quality partnerships.

3. Evolution, which assumes continuous analysis and reuse of elements of success, integrating unexpected phenomena and random events into current practice, moving from randomness to consistency, and regularly remixing information.

4. An architecture that requires the development of self-regulation and the involvement of all system levels in the change process.

5. Efficient use of resources, i.e., building processes that use minimal energy, recycling resources, including emotional resources, and developing a multifunctional design.

The structural-content model of professional and personal competencies of college teachers is theoretically grounded and designed to define the conditions that promote teacher competitiveness, e.g., in-service training programs, network models of work organization, creation of a teacher brand, and quality of student learning outcomes. A socio-psychological profile of a college teacher is described as the data uploaded to the professional information systems containing the results of teachers' scientific and social activities (the Russian Scientific Electronic Library integrated with the Russian Science Citation Index (RSCI). In addition, the data of the socio-psychological study include tests, surveys, and interviews with educational stakeholders (college teachers and students) regarding their gender, age, and social characteristics. As a result, a methodology should be developed to diagnose the professional development level of college teachers, including the definition of teachers' social and personal readiness to act in the digitalized world and educational systems, as well as their professional competencies. The study also includes the development and validation of different scenarios for the professional development of college teachers and a portfolio of guidelines to improve their competitiveness.

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