



Creative and Predictive Management of Vocational Education in the Context of Social Partnership Development

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Abstract: This research aims to theoretically substantiate the effectiveness of creative-prospective management in the professional training of contemporary youth in the context of developing social partnerships. Additionally, it aims to describe the functional model of creative-prospective management in professional education within the social partnership framework. The study involved 482 South Ural State Humanitarian-Pedagogical University students, the Russian State Vocational Pedagogical University, and the Shadrinsk State Pedagogical University. Furthermore, 100 graduates currently employed in secondary education institutions participated in the study. The following methodologies were employed in the experiment: the Mehrabian Achieving Tendency Scale (used by employers and social partners to determine the relationships between partners in social partnerships) and the modified Magomed-Eminov (1989, 2002) scale (utilized by employers and social partners to assess the quality of graduates' professional training). A multistage quota sampling technique and a review of the modification questionnaires were used to ensure the experiment's reliability. Respondents participated in the assessment of the effectiveness of professional education managers. The empirical research revealed synergistic connections between an expanded list of specialities and training directions associated with the differentiation of professional education and the employability of graduates in the Ural labour market. It was determined that creative and prospective management is necessary to prepare highly qualified and competitive graduates. This allowed for identifying key criteria for assessing the quality of higher education and their indicators, including the level of overall development and professional qualifications of graduates, as well as the employability of graduates in the labour market. Implementing creative and prospective management can serve as the basis for the dynamic expansion of international educational agglomerations. The development of social partnerships can increase the competitiveness of educational organisations involved in diversification processes within the international educational space. The analysed theoretical and practical positions emphasise the challenges and possible solutions associated with the system of social partnership.

Keywords: Creative and predictive management, digitalization, globalization, social partnership, vocational education

1. Introduction

Education serves as a pivotal mechanism not solely for the preservation but also for cultivating human potential. Consequently, it plays a crucial role in upholding socio-political stability, perpetuating cultural traditions, enhancing labour productivity, and advancing scientific and technological progress. The development of science and education in society is associated with several phenomena of global social dynamics. Globalisation is one of them and currently has a key impact on all aspects of human and social life. Education, as a social institution, is in the thick of globalization. Thus, the analysis of the problems and prospects of education should be carried out considering the influence of globalisation, which acquires its characteristics and features in the sphere of education (Ball, 2021).

Under the influence of the development of the Internet and satellite communications, the information field has become global, it cannot be limited by distance and state borders. The formation of a single global communication field and the development of information and communication technologies contributed to the enrichment of the educational process with the tools for interactive learning, including distance education, online conferences, access to online libraries, world banks, etc. (Leal Filho et al., 2018). In the context of improving educational processes, practical application has gained significance through social partnerships, which directly stimulate the enhancement of the quality of education. Engaging professionals with practical experience and knowledge can be highly beneficial for students. Social partnerships can aid in the implementation of new teaching methodologies and approaches, thereby facilitating students' acquisition of relevant skills (Parashchenko & Engineers, 2019).

However, the effective implementation of the practices relies on a proper management approach. Creative student management allows students to generate new ideas and approaches to learning, aiding them in overcoming challenges and achieving success. The development of emotional intelligence helps students understand their own emotions and those of others, contributing to better communication and interaction with teachers and peers (Alsharari & Alshurideh, 2020). Overall, defining student development orientations enhances the effectiveness of the interaction between educational institutions and individuals. Modernization of the vocational education system in Russia brings to the forefront the issue of training personnel capable of preserving national traditions, interests, and values to improve the quality of life of Russians in the context of integration into the global professional community. All this necessitates the use of innovative approaches in vocational education (Valūnaitė Oleškevičienė et al., 2019).

This is precisely why the management of professional education is intended to reflect the employment needs of students in their future careers, thus necessitating the formation of a creative and forward-thinking paradigm that considers the growing development of social partnerships.

1.1 Literature Overview

Various measures in the field of education and, consequently, human development is envisaged in almost all strategic initiatives and programs aimed at the development of Russia (Kuchumov et al., 2019). This requires a completely new model of training, namely the creative and predictive management of the preparation of vocational education teachers in the context of the globalization of society. The main guideline for the formation of a policy in the field of vocational education should be aimed at eliminating deep contradictions between the dynamically changing demand for specialists in the regional labour market and their supply by educational institutions of all levels (Petrenko et al., 2020). A developed economy with a highly competitive environment rejects unskilled labour and creates an imbalance in the labour market (Zawacki-Richter et al., 2020).

Summarizing the above, it should be noted that the vocational education system should be flexible, dynamic, and open to changes. It should be based on the principles of innovation and an innovative structure characteristic of the century of digitalization and the development of an innovative economy (Kuchumov et al., 2019). To ensure a constructive dialogue between vocational education and employers, it is necessary to develop a social partnership, which implies not only collaboration in the implementation of educational standards, joint certification of graduates, and a new system for assessing the quality of graduate training programs but also the development of research and professional cooperation based on a system of contracts and mechanisms of investment in the training system (Song, 2018).

Based on the above, it can be assumed that the introduction of creative and predictive management of vocational education in the context of the development of social partnership will make it possible:

- to determine the advanced nature of the development of vocational education in relation to the development of the economy.
- to enhance the flexibility, variability, and versatility of vocational education, which will make it possible to implement continuous professional training, promote cultural and civic identity formation, as well as the development of the individual adapted to the new socio-economic environment.
- to implement progressive educational technologies in the field of vocational education.
- to expand the list of vocational education services.
- to establish a close connection between employment centres, enterprises, and professional schools of all levels.

- to increase the professional competence of teachers focused on meeting the individual needs of students (Korneeva et al., 2019).

Creative and predictive management of vocational education requires social partnership, in which the quality of vocational education increases and directly affects the employment of graduates and their stay at the job. According to Kalakov and Neverkovich (2018), the concept of creative and predictive management should be defined as the ability to quickly make anticipatory decisions given space, time, and place. We believe that during the research creative and predictive management should be considered as a complex system for predicting the impacts and interactions of all subjects considering its operation features and strategic tasks with the use of creative management methods.

The research is based on the ideas of global improvement of pedagogy and educational practices (Ashytok, 2018; Bera, 2017; Wang & Shao, 2017); increasing the level of professional training based on digital technologies and the use of online education (Collier-Harris & Goldman, 2017; Herrera-Pavo, 2021; Zhao et al., 2021); ensuring safety through the implementation of innovative technologies of vocational education (Mullis & Martin, 2016; Naeemi & Tamam, 2017; Nugent, 2017); increasing the competitiveness of education systems (Frison & Eggermont, 2017; Pickering, 2019; Szabo et al., 2020); design of social partnership systems (Chandra, 2016; Heick, 2020; Sherbill, 2018).

This study aims to theoretically substantiate the creative and predictive management model in youth education in the context of social partnership that underlies competitiveness in the labour market. The goal is to characterize the functional model of creative and predictive management in vocational education with social partnership as the primary competence. The objectives of the study are (1) to unveil the role of social partnership in the system of vocational education; (2) to analyse the performance of vocational education managers through the prism of creative predictive management and social partnership; and (3) based on the results, to highlight the main criteria for assessing the quality of higher education.

There is a need for a functional model of creative predictive management in vocational education that takes social partnership into account. This model will allow educational institutions to produce highly competitive specialists under the condition of globalization.

2. Methods and Materials

During the empirical research, both theoretical and practical methods were employed. Initially, an analysis of relevant literature was conducted:

1) Content analysis conducted on a range of documents regulating the field of vocational education (Table 1). Regulatory document analysis was to determine the possibilities and influence of the social partner in the research field. The documents were collected according to recommendations given by scientists from the universities under study and based on their importance in the regional context. These documents did not consider provisions from other countries and were examined based on the perspective of scholars regarding the situation in educational institutions.

Table 1 - Regulatory documents in the field of professional education

No.	Regulatory document
1.	Federal Law "On Education in the Russian Federation" of December 29, 2012
2.	Strategy for the Development of the Information Society of the Russian Federation for 2017-2030"
3.	Decree of the President of the Russian Federation of July 21, 2020, 7. No. 474 "On the National Development Goals of the Russian Federation for the period up to 2030"
4.	Strategy for the Scientific and Technological Development of the Russian Federation until 2035
5.	National projects (programs) in the fields of Education and Science, including federal projects defining the main tasks of the development of science and the education system, Strategy for the Development of the National Qualification System of the Russian Federation for the period up to 2030 (approved by the National Professional Qualifications Council under the President of the Russian Federation (minutes of 12.03.2021, No. 51))
6.	Order of the Ministry of Education and Science of the Chelyabinsk Region of June 29, 2021, No. 01/1753 "On approval of the Concept of the system for ensuring and supporting the professional development of pedagogical and executive employees of educational organizations of the Chelyabinsk Region and the Roadmap for its implementation for 2021-2024.
7.	State program of December 29, 2018 "The Development of education in the Chelyabinsk region for the period from 2018 to 2025"
8.	Order of the Ministry of Education and Science of the Chelyabinsk Region No. 01/123 of January 22, 2021. "On the implementation of the Concept of organizational and pedagogical support for professional self-determination of students of the Chelyabinsk region in 2021-2025"

The document analysis lasted for two weeks, during which participating teachers were asked to report the results of their analytical work at the end of the specified period. Ten teachers from the studied educational institutions participated in this stage. The analytical notes (in the form of correspondence tables) submitted by the participating

teachers were consolidated by the authors. Each participant recorded the main points of the article separately and then summarized them. Since the provided regulatory documents define the process of education through various provisions, their analysis aimed to determine compliance from the perspective of social responsibility. The synthesis of the stated provisions was based on secondary sources of information.

2) The study and generalization of the degree of effectiveness of the activities of the subjects involved in the management of vocational education: a report on the achievement of target indicators (the level of professional training of graduates and the degree of employer satisfaction) defined by the regional program "On optimizing the functions of state (municipal) management of the Chelyabinsk region and increasing the efficiency of their implementation for 2020-2021". Thus, the documents were analysed for the interaction of an educational institution with a private property institution for partnership purposes. In this case, five teachers from the group responsible for studying the regulatory framework were involved, and the authors conducted the synthesis of the obtained data.

Following the document analysis, the research was complemented by an experimental part involving surveys of various sample groups: employers and social partners, as well as students. In the first block, the aspect of social partnership was taken into consideration. To define them, standardized methods and methodologies were applied, including the Mehrabian Achieving Tendency Scale (employers and social partners, to determine the relationship of co-partners in social partnership) modified by Magomed-Eminov (1989, 2002) (employers and social partners, to determine the quality of professional training of graduates).

The empirical study was conducted among university students in the period from 2018 to 2021 in Chelyabinsk, Yekaterinburg and in Shadrinsk (experimental group - South Ural State Humanitarian and Pedagogical University [162 students: 100 women and 61 men], FSIEI HE Russian State Professional Pedagogical University [160 students: 100 women and 61 men], FSBI HE Shadrinsk State Pedagogical University [160 students: 99 women and 61 men]). A total of 482 students were involved in the experiment. This sample of respondents is since social partnership agreements have been concluded with these educational organizations and there are similar training programs in 44.03.04 - Professional training (by industry) (Table 2).

Table 2 - Description of the sample of respondents (n=482)

Criterion		
Age	18-22	21%
	22-26	39%
	26-30	40%
Gender	Women	62%
	Men	38%

Based on the total number of students in the participating universities, the margin of error does not exceed $p = 4.83$. The study sample can thus be considered sufficiently representative for the research purposes.

The study presents a comprehensive analysis of the graduates' level of professional training (Tarkhov et al., 2018). To evaluate the level of preparedness, interactions were also facilitated with students who were alumni of the respective institutions. A survey was conducted where employers were asked about working in secondary education institutions. Priority was given to two individuals (a man and a woman) employed in the same university. A total of 179 people from the same university (Table 3) were interviewed. Of these, 100 were selected (based on the application priority). In other words, to maintain correspondence: one woman and one man from each pair. Gender equality was ensured. A total of 100 employers (CEOs and assistant directors) were surveyed, with an equal distribution of 50% women and 50% men.

This diagnostic method relies on the level of significance: $p \leq 0.05$; this means that the reliability of the hypothesis acceptance is at least 95% and 99%. The main criterion for the selection of respondents was their affiliation with the system of secondary vocational education of the Ural region, which is the focus of the activities of the South Ural State Humanitarian and Pedagogical University, FSIEI HE Russian State Professional Pedagogical University, FSBI HE Shadrinsk State Pedagogical University (Table 3).

From each college, 2 representatives (one male and one female) were selected, except for Ashinsky Industrial College and Miass Machine-Building College, where there were 3 representatives each. The limitations of the study can be determined by the quantitative and qualitative indicators of students and social partners characterized by the field of professional training and professional activity.

It should be noted that the empirical study found synergies between the extended specialities and fields of training related to the differentiation of vocational education and the demand for graduates in the labour market in the Ural region. The relevance of the study is ensured by the uniform combination of gender, age, and administrative composition of the subjects of Southern Ural and the Ural region. The respondents are characterized by the same characteristics in terms of professional training, territorial affiliation, and areas of activity.

Table 3 - Educational institutions from study representatives (respondents)

Names	Yekaterinburg Energy College	College of Magnitogorsk State Technical University named after G.I. Nosov	Committent College of Chelyabinsk	Magnitogorsk Pedagogical College
Mining enterprises: Alexandrinsk OJSC	Yekaterinburg College of Industrial Technologies and Services	South Ural State Technical College	Chelyabinsk Road-Construction College	Magnitogorsk College of Modern Education
ChTZ-Uraltrakt OJSC	Kurgan College of Service and Technology	Chelyabinsk Professional College	Ust-Katavsky Industrial and Technological College	Korkinsky Mining and Construction College
Machine-building enterprises: Ural plant	Kurgan Industrial College	Chelyabinsk College of Industry and Municipal Economy named after Ya.P. Osadchy	Chelyabinsk State Industrial and Humanitarian College named after A.V. Yakovlev	Katav-Ivanovsky Industrial College
Magnitogorsk Metallurgical Plant PJSC	Kurgan State College	Magnitogorsk Construction and Assembly College	Chelyabinsk Motor Transport College	Zlatoust Pedagogical College
Metallurgical enterprises: Mechel PJSC	Kurgan College of Construction Technologies and Municipal Economy	Baikal College of Professional Technologies and Service named after M.G. Ganiev	Satka Polytechnic College named after A.K. Savin	Zlatoust College of Technology and Economics
Ural Radio Engineering College named after A.S. Popov	Zlatoust Medical College	South Ural Multidisciplinary College	Ozersk Technical College	Zlatoust Industrial College named after P.P. Anosov
Revda Pedagogical College	College of Ural State University of Railway Transport in Zlatoust	Chelyabinsk State College of Food industry and Trade	Miass Machine-Building College	South Ural State College
Ural State College named after I.I. Polzunov	College of Ural State University of Railway Transport in Chelyabinsk	Troitsk Technological College	Polytechnic College	Chelyabinsk Law College
Ural Railway College, Yekaterinburg Trade and Economics College	College of [BLINDED] University	Ashinsky Industrial College	Magnitogorsk College of Technology named after V.P. Omelchenko	South Ural State Technical College

To determine whether Mehrabian's modification of the achievement scale is fit for the purposes of the current research, Cronbach's alpha was calculated. The interpretation of Cronbach's alpha values is as follows: >0.9 excellent; >0.8 good; 0.7 acceptable; 0.6 questionable; and >0.5 poor (George & Mallery, 2003). The Cronbach's alpha value for the questionnaire was 0.91 with values of 0.94, 0.91, 0.9, 0.86, 0.9, and 0.94 for the six dimensions. Therefore, the questionnaire is reliable and can be used for the survey.

The survey used a multistage quota selection. The sampling error was calculated by the formula:

$$\text{Sampling Error Formula} = Z \times \frac{\sigma}{\sqrt{n}}$$

where: z is the critical value for a given confidence level (95%); n denotes the sample size; σ represents the standard deviation (Survey Monkey, 2021).

The sampling error is 0.765%, or around 1%, suggesting that data obtained during the study is reliable. Data normality and missing values were checked before data was entered into the program.

3. Results

3.1 Legal and Regulatory Framework

Based on information from secondary sources (such as normative acts and charters) tied to the education system in Russia, one of the most significant problems associated with integration and stabilization processed in vocational education is the lack of funding. Here, social partnership suggests the institutions of vocational education need creative and predictive management to provide high-quality services, meet the demand of the labour market, and enable effective problem-solving.

The model contains several components and allows examining the structural, functional, and procedural architectonics of actions underpinning the management framework. It builds on the principles of integrity, optimum managerial orientation, efficiency, consistency, and adaptability, thereby ensuring the innovation cycle’s integrity (Korneev & Tyunin, 2021). Here, internal, and external factors that can significantly affect the development forecast represent a block of forecasting management activities aimed at optimizing the use of available resources with respect to interactions with social partners (Mykhailyshyn et al., 2019).

There are various forms of social partnership such as partnership between different groups in the vocational education community, partnership which implies an interaction between education personnel and representatives of other spheres of social reproduction and partnership where the vocational education system initiates a special sphere of social life contributing to the development and formation of civil society.

3.2 Political Risks of Developing Social Partnership in Business Education

The thorough analysis of the current education policy allowed us to identify *political risks*. Based on evidence from the regulatory and legal acts specified in the methodology, one can state that there are contradictions between the objective need to develop international academic mobility in the globalizing international learning space and political interference leading to educational segregation (Kalakov & Neverkovich, 2018). The key problem of the vocational education system is *investment* (Fig. 1), as evidenced by university funding statistics for 2020 for different countries presented in billion US dollars below (Statista, 2023).

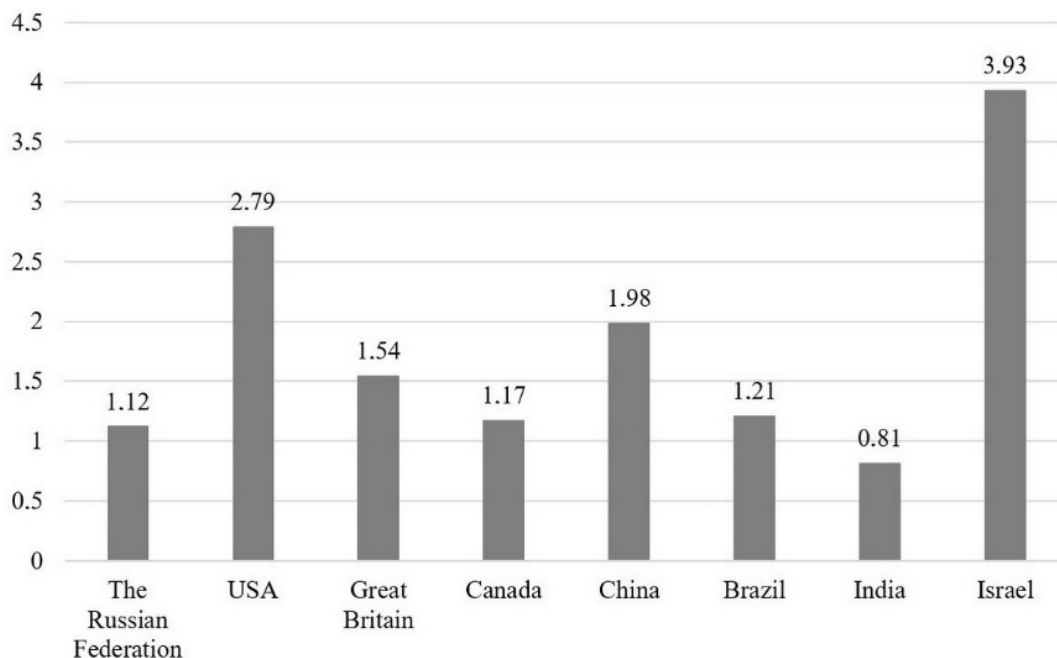


Fig. 1 - Investments in research and development (R&D) as of 2020, % of GDP

Source: adapted from Kalakov and Neverkovich (2018)

3.3 The Role of Social Partnership in Creative Predictive Management (Empirical Evidence from Business Education)

The empirical study involving 100 heads of educational organizations and enterprises (social partners) aimed to determine the employers' requirements for graduates' competencies. They indicated whether they rate their organization's graduate requirements as high, medium, or low, and briefly what they expected. In total, 76% of employers showed interest in qualified and competent personnel (“high requirements”). They gave their preference to up-and-coming graduates who could communicate well, think creatively, and do their job using predictive methods.

This finding suggests the relevance of the issue under consideration. Another 15% of employers were satisfied with the quality of modern secondary vocational education, which suggests compliance with the Federal educational standards (“average requirements”). Finally, 9% expressed readiness to improve students’ level of professional competence ‘in the field’, that is, within the internal professional development system of the enterprise (“low requirements”).

The experimental educational institution (42%) – South Ural State Humanitarian and Pedagogical University – is ahead of the control institutions (25%) (Table 4). One of its priorities is additional education in related professions. Based on the labour market demand in the region, students enrolled in the major education program can get additional training to master a wider range of professional activities. It may contain binary training profiles and be administrated online. In the experimental educational institution (South Ural State Humanitarian and Pedagogical University), there are 75 additional training programs available.

In education, one of the markers of high-quality service delivery is a high number of graduates employed in their field of study. The comparative analysis of graduate employment shows that South Ural State Humanitarian and Pedagogical University is ahead of the control institutions. This finding suggests that the joint activities of social partners enabled the delivery of higher-quality educational services.

Based on the professional adaptation and graduate employment rates, the university shows progress towards a learning environment that enables quick and easy adaptation of graduates to the challenges of the labour market. Statistical data show that graduates from South Ural State Humanitarian and Pedagogical University can easily adapt to various places of work. This finding suggests that these graduates received better training than those from the control educational institutions. The empirical study measures education quality across indicators described below (Table 4).

Table 4 - Data on the quality of professional education in pedagogical universities

Educational institution of professional higher education	Year	Quality indicators		
		Additional professional education	Employment*, %	Stay at the job, %
Experimental professional institution	2018	78	75	43
	2019	94	83	51
	2020	126	94	67
Control professional institution 1	2018	56	42	18
	2019	59	51	26
	2020	67	72	37
Control professional institution 2	2018	42	35	24
	2019	49	43	28
	2020	56	62	31

* the percentage of students employed after completing programs at each institution by the years from universities data

Source: own development based on Kalakov and Neverkovich (2018)

3.4 A Model of Multi-Level Partnership System to Improve Business Education

The empirical study describes the dynamic changes in the number of social partners collaborating with the Vocational Pedagogical Institute of the South Ural State Humanitarian and Pedagogical University; these indicators came from the available agreements on social partnership (Table 5).

Table 5 - Social partners in pedagogical universities

Educational institution of professional higher education	Number of social partners (by years)		
	2018	2019	2020
Experimental professional institution	18	23	42
Control institution of professional higher education 1	8	17	25
Control institution of professional higher education 2	6	14	23

Source: own development based on Bazavlutskaya et al. (2019)

As can be seen, the Control institution of professional higher education 1 has the strongest correlation, which indicates the highest level of turnover. In the context of social responsibility, the dynamics seem to be positive in all groups. Using the primary and secondary data synthesized during the study, we developed a multi-level education management system. The system has three pillars:

I. *Market Research*. When it comes to creative and predictive education management under the social partnership, marketing research focuses on joint activities with social partners in career counselling and work with applicants. The success of the events held is largely determined by public relations (PR). It should be stated that it is necessary to work on the image of a professional institution constantly and systematically, positioning it as a competent social partner who is aware of the labour market demands. At the same time, a vocational education institution enhances the positive image of its social partners (Korneev & Tyunin, 2021).

II. *Organizational and Pedagogical Support*. This component implies the creation of conditions for ensuring a high-quality educational process at all its stages, up to the final state certification which objectively assesses the quality of vocational training under the Federal State Educational Standard (Tarkhov et al., 2018).

III. *Employment and Career Advancement*. The quality of education is assessed by evaluating the general cultural, professional, and specialty-related competencies. Their ratio changes along with the market to meet the demands of employers/social partners. Based on the results of the empirical study involving 100 heads of educational organizations and enterprises (social partners), it can be said that the expectations of companies are rising, and the partnership aims to prepare graduates for these expectations during their studies.

Accordingly, active engagement in these areas results in a notable enhancement of self-regulation, self-assuredness, and the aptitude for effectively managing stress. Significant areas of interaction can be identified: labour market demand, career guidance, quality of training, on-the-job training, employment of graduates, professional adaptation, advanced training, and personnel demand forecast. The benefits of social partnership were determined from the presented research results and the opinions of the interviewed leaders of partner organizations and enterprises. Thus, the empirical research confirmed that purposeful activity with the use of creative and predictive management of vocational education in the context of social partnership contributes to a more effective solution to the problem of improving the quality of vocational education. Such conclusions are made based on a theoretical analysis of the properties and specifics of this context management and the identified problems of vocational education in the region under study.

The issue of professional training within the framework of social partnership and the management of this process studied by domestic and foreign researchers in different fields of study (economics, sociology, philosophy, pedagogy, etc.) is explicated within the framework of the development of education assessment systems and educational agglomeration (from Latin agglomerate to accumulate) in the form of clusters of organizations and resources characterized by weak relationships and functioning in an unstable environment but gaining competitive advantages in the process of implementing this interaction (European Union, 2008). Due to the functioning of the educational agglomeration in the environment of the extreme instability of development, as indicated above, creative and predictive management acquires a certain value as this methodology ensures a flexible response to the changes occurring on a systematic basis (Karadag & Ciftci., 2022).

The shortcomings of this methodology include short-term planning, the lack of road maps, extensive refactoring, and the possibility of demotivating students while obtaining vocational education. However, despite the above, the creative and predictive management methodology has become widespread in the system of foreign education due to its ability to promote the achievement of quantitative and qualitative goals of the education system through a person-centred approach to the purposeful increase of the organizational discipline level (Song, 2018).

During the practical application of the methodology, the heads of educational organizations can build a hierarchy of interests of educational services' consumers (students, parents, employers, etc.) prevailing over the requirements of the current education system (Groux et al., 2019).

4. Discussion

Based on the analysis, the functional model of creative and predictive management in the studied regions with social partnership at its core is like that in Fig. 2.

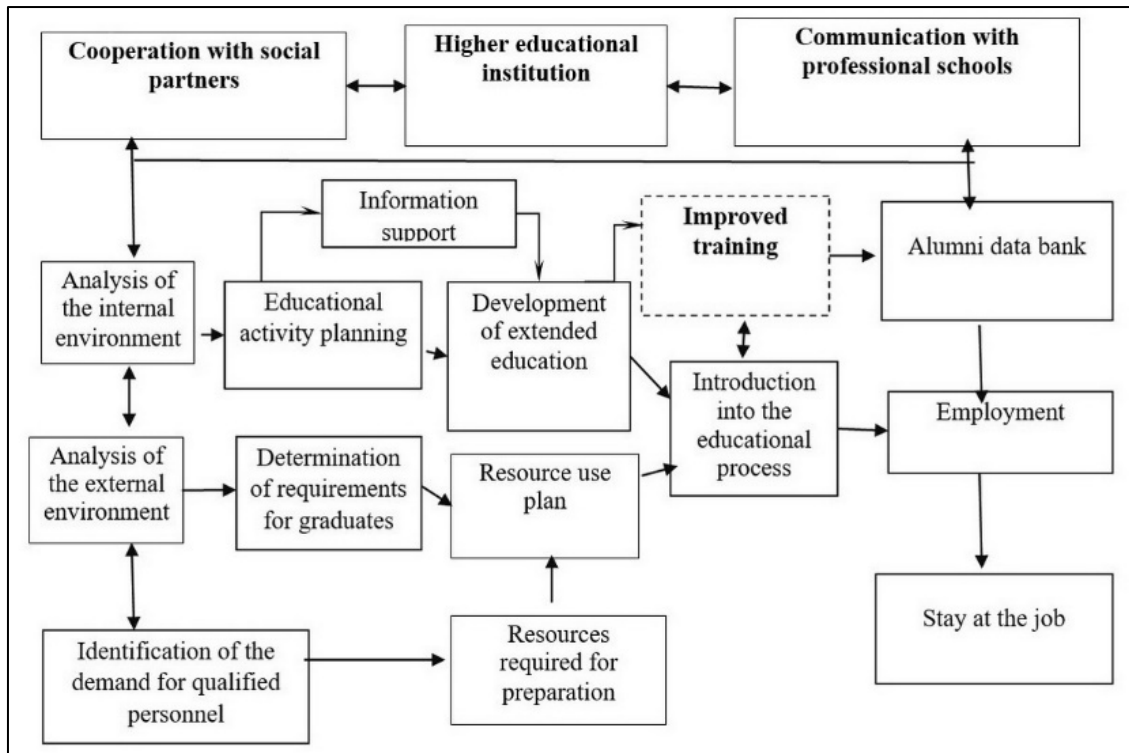


Fig. 2 - The functional model of creative and predictive management of vocational education in the context of social partnership

Source: developed by the authors based on Kalakov and Neverkovich (2018)

The current findings are collateral in terms of analysing the demonstrable effectiveness of an institution-based social partnership paradigm to improve the vocational education of students.

Summarizing the above, it can be concluded that because of implementing the creative and predictive management principles, it is possible to expand the possibilities of managing the system of modern education by:

- 1) the integration of innovations (“smart” scaling);
- 2) the creation of online platforms for the educational process subjects.
- 3) the introduction of mechanisms for the creative and predictive management of professional training in the context of social partnership.

In modern education, the opportunities provided by creative and predictive management should be considered under the general trend towards globalization. This trend allows us to present the creative predictive approach as a benchmark for research on education management where the underpinning framework includes interrelated principles, values and methods based on integrated forecasting and creativity.

In vocational education, creative and predictive management under the condition of social partnership refers to a set of long-term socio-economic relations with numerous co-partners (Fig. 3).

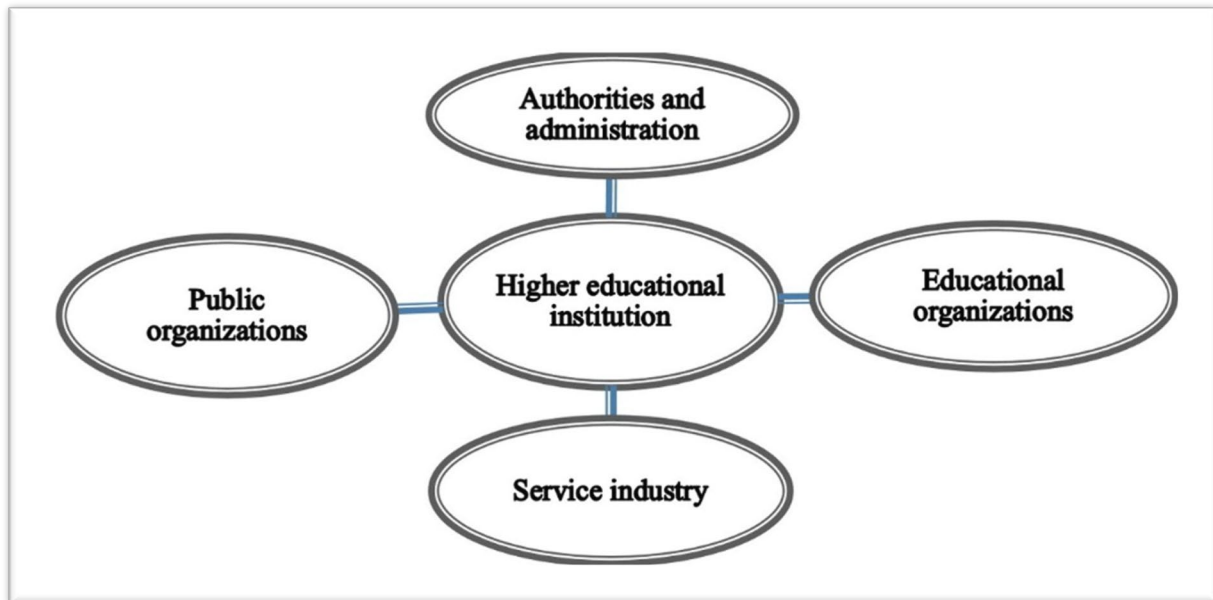


Fig. 3 - Relationship between co-partners in the process of social partnership

Source: adapted from Kalakov and Neverkovich (2018)

In parallel, the present study and available literature in humanities and social sciences suggest the insufficient methodological development of vocational education management. Hence, more studies are needed to find a solution to related problems.

This study examines the formation of social partnerships in the field of vocational education in the EU countries, which took place in the context of social dialogue since the mid-1950s. By the beginning of the 1990s, in the countries of Western Europe, the basic organizational models had already been formed (Zawacki-Richter et al., 2020). Within the study of the modern industrial countries of the European Union, it should be noted that the organization of vocational education systems and the development of education policy in this area are often based on dynamic social partnerships (Heilbroner, 1988). Paying attention to the years of initiative in the implementation of the above programs, one can conclude about the progressive awareness of the need for professional development of future specialists in the European Union. The education in Russia, on the other hand, is more backward.

The Australian Minister for Vocational Education and Skills Scott Ryan (the President of the Senate) emphasized that to survive and thrive in today's fast-paced world, universities must enter the market and become consumer-oriented. In addition, universities must adapt to globalization following the example of other industries (Groux et al., 2019). Considering the modern education system in Great Britain's reliance on open information about various professions, the labour market, and the demand for specific careers, it can be observed that the list of "Top 100 professions of the future" is consistently updated in Russia. However, professional organizations require additional time to prepare specialists for these evolving professions (Quang, 2016). These conclusions are based on evidence obtained using the proposed functional model of creative and predictive management in vocational education oriented towards social partnership. The proposed model can be further applied in other regions of Russia.

The partnership model in Germany, the Netherlands and Denmark is described as society-state-society since the state acts as the main agent in the formation of the normative and values-based field of education (Johannessen & Skeie, 2019). In France, the model of state intervention is being implemented while ensuring the state regulation of the vocational education system in cooperation with social partners (Jones, 2017).

In the context of the analysis of the foreign experience of social partnership, the study notes the experience of the United States. American private higher education is not controlled by the ministries but by the board of trustees mostly consisting of philanthropists helping universities and influencing society. These government boards are elected or appointed by the governor and approved by the state legislature. Thus, boards represent both the public interest and the interests of a particular college or university. In the United States, the partnership model is based on the relationship between the society and the state as there is no single-state system of education management (this right is delegated to each state) (Wilson, 2017). At the same time, social partnership is a multifaceted phenomenon that reflects only one among many approaches to understanding social partnership in the world of work. On the other hand, the current findings encourage the search for opportunities to use research results in various areas of human life, indirectly with innovative technologies.

According to Leal Filho et al. (2018), social partnership is a form of collective contractual regulation of labour. This position seems to be controversial as there is a natural question of whether the social partnership can act only as a

form of collective contractual regulation of labour. As per Tarkhov social partnership is a legal mechanism for regulating collective relations, including regulatory and protective parts. According to this approach, the regulatory part of the legal mechanism of social partnership includes the relations that develop between the subjects of social partnership and relate to the issues of collective bargaining and the conclusion of collective agreements and contracts, as well as the relations in the field of participation of workers and their representatives in the company management (Tarkhov et al., 2018).

Bazavlutskaya defined social partnership as a form of interaction between employers, workers and the state represented by their representatives to harmonize the interests of partners, regulate social and labour relations, and prevent social and labour conflicts. According to this approach, social partnership cannot be regarded as a system as the concept of "system" is ambiguous and does not reveal the essence of social partnership as a phenomenon (Bazavlutskaya et al., 2019). According to the results of the model formed in the present study, we call this "system" an educational agglomeration, in which creative management and prediction play a decisive role in meeting the needs of organizations and companies as one of the beneficiaries of social partnership.

Based on the analysis of labour legislation and scientific literature, it can be argued that the terms "social partnership", "social cooperation" and "social dialogue" can be used interchangeably; however, in international labour law, the concept of "social dialogue" is preferable and in Russian labour law, "social partnership" is more commonly used. On the other hand, in the current study, the social partnership would play an advanced role in the professional development of young people - exposing at once a more specialized vector of competencies needed by the student in the future. Based on the results of the respondents' survey, one should note the need to deepen the partnership between the business and educational sectors to improve the integration of specialized practices at the stage of training. A controversial issue is whether social management bodies belong to the subjects of social partnership or should be considered independent elements of the system of social partnership (Quang, 2016; Szabo et al., 2020). The study assumes that social management bodies are the subjects of social partnership. Gnatyshina, on the contrary, does not include social partnership management bodies in the circle of social partnership subjects (Bazavlutskaya et al., 2019).

The position of Tyunin seems to be fairer as social partnership management bodies are created by social partnership subjects to harmonize their interests and regulate labour and other relations directly related to them; therefore, social partnership bodies should be considered independent elements of the social partnership system (Korneev & Tyunin, 2021). This approach is inferior to that proposed in our study, since social partnership management bodies, which are organizations and commercial companies, are largely dependent on the quality of graduates, which they cannot control, so they cannot be considered completely independent agents. Based on this study, it can be concluded that social partnership in the field of vocational education is a set of activities of various organizations aimed at achieving the goals of professional training of qualified personnel for the modern labour market with the use of creative and predictive management in the context of the globalization of society.

5. Conclusion

Based on the data obtained because of the empirical research and the feedback principle, the interaction between social partners and a vocational education institution has been considered; it can affect the content of education and the organizational and pedagogical support at the first and second levels.

It was revealed that creative and predictive management in the context of social partnership is needed for the preparation of a highly qualified and competitive graduate. This allowed us to identify the main criteria for assessing the quality of higher education and their indicators:

- the level of professional qualifications of the graduate: obtaining additional vocational education while studying at university, working while studying.
- demand for graduates in the labour market: employment in the field of study.
- the graduate's general development level: readiness for continuing education, social mobility, socio-economic and socio-legal competence.

The current article contains a significant contribution to the further development of vocational education in Russia. The defined theoretical approach has highlighted the main prerequisites and obstacles for the optimal functioning of this institution - leading to the effectiveness of applying social partnership. The study has theoretically substantiated the effectiveness of creative and predictive management in the professional training of modern youth in the context of the development of social partnership as the basis for the competitiveness of young specialists in the labor market, as well as described a functional model of creative and predictive management of vocational education in the context of social partnership.

It can be summarized that the criteria for assessing the quality of vocational education must be adequate to the socio-economic conditions and this process must be controlled. Creative and predictive management of vocational education implies the implementation of predictive thinking in training rising specialists, creativity acts as a creative embodiment of personal and professional capabilities, and social partnership is a platform for testing, development, and implementation of such opportunities. Future research can examine the possibility of implementing the proposed management programs that build on university-business collaboration.

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References

- Alsharari, N. M., & Alshurideh, M. T. (2020). Student retention in higher education: The role of creativity, emotional intelligence and learner autonomy. *International Journal of Educational Management*, 35(1), 233-247. doi: 10.1108/IJEM-12-2019-0421
- Ashytok, N. (2018). Axiological approach as a methodological basis of pedagogy and educational practice improvement. *Lubelski Rocznik Pedagogiczny*, 37(2), 11-19. doi: 10.17951/lrp.2018.37.2.11-19
- Ball, S. J. (2021). *The education debates*. Bristol: Policy Press.
- Bazavlutskaya, L. M., Gnatyshina, E. A., Korneev, D. N., & Korneeva, N. Y. (2019). *Formation of human resources in the educational space*. Monograph. Chelyabinsk: Publishing house of JSC "A. Miller Library".
- Bera, R. (2017). Safety pedagogy in the context of contemporary threats in social life. *Maria Curie-Skłodowska University in Lublin. Faculty of Pedagogy and Psychology*, 30, 11-18.
- Chandra, A. (2016). Social networking sites and digital identity: The utility of provider-adolescent communication. *The Brown University Child and Adolescent Behaviour Letter*, 32(3), 1-7. doi: 10.1002/cbl.30107
- Collier-Harris, C. A., & Goldman, J. D. (2017). What educational contexts should teachers consider for their puberty education programmes? *Educational Review*, 69(1), 118-133. doi: 10.1080/00131911.2016.1183592
- European Union. (2008). European Qualifications Framework, Recommendation 2008-EC on establishing the European Qualifications Framework for lifelong learning. *Official Journal of the European Union*. Retrieved April 13, 2023, from <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF>.
- Frison, E., & Eggermont, S. (2017). Browsing, posting, and liking on Instagram: The reciprocal relationships between different types of Instagram use and adolescents' depressed mood. *Cyberpsychology, Behaviour, and Social Networking*, 20(10), 603-609. doi: 10.1089/cyber.2017.0156
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update*. (4th ed.). Boston: Allyn & Bacon.
- Groux, D., Perez, S., Porcher, L., Rust, V. D., & Tasaki, N. (2019). *Dictionnaire d'éducation compare* [Dictionary of compared education]. Paris: L'Harmattan.
- Heick, T. (2020). 3 Types of Project-Based Learning Symbolize Its Evolution. *The Teach Thought Podcast*. Retrieved April 13, 2023, from <https://www.teachthought.com/project-based-learning/5-types-of-project-based-learning-symbolize-its-evolution/>
- Heilbroner, R. L. (1988). *Behind the Veil of Economics. Essays in Worldly Philosophy*. New York: W. W. Norton & Company.
- Herrera-Pavo, M. Á. (2021). Collaborative learning for virtual higher education. *Learning, Culture and Social Interaction*, 28, 100437. doi: 10.1016/j.lcsi.2020.100437
- Johannessen, Ø. L., & Skeie, G. (2019). The relationship between religious education and intercultural education. *Intercultural Education*, 30(3), 260-274. doi: 10.1080/14675986.2018.1540142
- Jones, A. T. (2017). Government. In T. Banks, F. E. Obiakor, A. F. Rotatori (Eds.), *Enhancing Partnerships in Special Education: Innovative Collaboration, Consultation, and Cooperation* (pp. 119-136). Charlotte: IAP.
- Kalakov, N. I., & Neverkovich, S. D. (2018). *Strategy of the predictive development of society aimed at ensuring the security of the country*. Monograph. Ulyanovsk: UISU.
- Karadag, E., & Ciftci, S. K. (2022). Deepening the effects of the academic inbreeding: Its impact on individual and institutional research productivity. *Research in Higher Education*, 63(6), 1015-1036. doi: 10.1007/s11162-021-09670-8
- Korneev, D. N., & Tyunin, A. I. (2021). *Management in education*. Monograph. Chelyabinsk: Publishing house of JSC "A. Miller Library".
- Korneeva, N. Y., Korneev, D. N., Gnatyshina, E. A., & Gnatyshina, E. I. (2019). *Scheme "Model of the system of project-based preparation of a rising lawyer for professional activity"*. Patent for industrial design RU 116929, 10.10.2019. Application No. 2019500902 dated 06.03.2019.

- Kuchumov, A., Terentiev, S., & Gnezdova, J. (2019). Strategic initiatives of education development in Russia in the conditions of development of digital technologies. In R. Hou, T. Volodina, M. Huo (Eds.), *3rd International Conference on Culture, Education and Economic Development of Modern Society (ICCESE 2019)* (pp. 850-853). Paris: Atlantis Press. doi: 10.2991/iccese-19.2019.183
- Leal Filho, W., Raath, S., Lazzarini, B., Vargas, V. R., de Souza, L., Anholon, R., Quelhas, O. L. G., Haddad, R., Klavins, M., & Orlovic, V. L. (2018). The role of transformation in learning and education for sustainability. *Journal of Cleaner Production*, 199, 286-295. doi: 10.1016/j.jclepro.2018.07.017
- Magomed-Eminov, M. S. (1989). *Research report "Psychological Service of the Union of Afghanistan Veterans"*. Moscow: Union of Afghanistan Veterans.
- Magomed-Eminov, M. S. (2002). Narcissist stress. In Y. Mikadze (Ed.), *International conference dedicated to the memory of A.R. Luria* (pp. 84-85). Birmingham: Insight.
- Mullis, I. V. S., & Martin, M. O. (2016). *PIRLS 2016 Assessment Framework*. Boston: TIMSS & PIRLS International Study Center.
- Mykhailyshyn, H., Kondur, O., & Serman, L. (2019). Innovation of education and educational innovations in conditions of modern higher education institution. *Journal of Vasyl Stefanyk Precarpathian National University*, 5(1), 9-16. doi: 10.15330/jpnu.5.1.9-16
- Naemi, S., & Tamam, E. (2017). The relationship between emotional dependence on facebook and psychological well-being in adolescents aged 13–16. *Child Indicators Research*, 10, 1095-1106. doi: 10.1007/s12187-016-9438-3
- Nugent, N. (2017). *The government and politics of the European Union*. London: Bloomsbury Publishing.
- Parashchenko, L., & Engineers, M. (2019). Social partnership of services sector professionals in the entrepreneurship education. *Journal of Entrepreneurship Education*, 22(4), 1-6.
- Petrenko, L., Kravets, S., Bazeliuk, O., Maiboroda, L., & Muzyka, I. (2020). Analysis of the current state of distance learning in the vocational education and training institutions. In S. Semerikov (Ed.), *The International Conference on Sustainable Futures: Environmental, Technological, Social and Economic Matters (ICSF 2020)* (Vol. 166, p. 10010). Les Ulis: EDP Sciences. doi: 10.1051/e3sconf/202016610010
- Pickering, T. (2019). *How to shift from education as content to education as context*. Education-reimagined. Retrieved April 13, 2023, from <https://education-reimagined.org/how-to-shift-from-education-as-content-to-education-as-context/>
- Quang, T. E. (2016). *The Dynamics of Teacher Professionalism in an Asian Context*. Asia Leadership Roundtable.
- Sherbill, A. (2018). *4 New 'Effective Teaching' Methods to WOW Your Students*. PowToon. Retrieved April 13, 2023, from <https://www.powtoon.com/blog/effective-teaching/>
- Song, J. (2018). Creating world-class Universities in China: Strategies and impacts at a renowned research university. *Higher Education*, 75, 729-742. doi: 10.1007/s10734-017-0167-4
- Statista (2023). *Official website*. Retrieved April 13, 2023, from <https://www.statista.com/>
- Survey Monkey (2021). *The margin of error calculator*. Survey Monkey. Retrieved April 13, 2023, from <https://www.surveymonkey.ru/mp/margin-of-error-calculator/>
- Szabo, Z. K., Körtesi, P., Guncaga, J., Szabo, D., & Neag, R. (2020). Examples of problem-solving strategies in mathematics education support the sustainability of 21st-century skills. *Sustainability*, 12(23), 10113. doi: 10.3390/su122310113
- Tarkhov, S. V., Minasov, S. M., & Minasova, N. S. (2018). The method of integrated diagnostics of the level of professional training and personal qualities of personnel. In A. D. Kulakov (Ed.), *Free Flight – 2018. Problems of Big Data Processing in Aviation. Materials of the III All-Russian Scientific and Practical Conference* (pp. 102-104). Ufa: RICK UGATU.
- Valūnaitė Oleškevičienė, G., Puksas, A., Gulbinskienė, D., & Mockienė, L. (2019). Student experience on the development of transversal skills in university studies. *Pedagogika*, 133, 63-77. doi: 10.15823/p.2019.133.4
- Wang, H., & Shao, X. (2017). Impact of the Media on Deconstruction and Reconstruction of college students' ideological and moral outlook. *EURASIA Journal of Mathematics, Science and Technology Education*, 13(12), 8113-8119. doi: 10.12973/ejmste/80772
- Wilson, L. (2017). *The academic man: A study in the sociology of a profession*. London: Routledge.

Zawacki-Richter, O., Kerres, M., Bedenlier, S., Bond, M., & Buntins, K. (2020). *Systematic reviews in educational research: Methodology, perspectives, and application*. Cham: Springer Nature.

Zhao, Y., Llorente, A. M. P., & Gómez, M. C. S. (2021). Digital competence in higher education research: A systematic literature review. *Computers & Education*, 168, 104212. doi: 10.1016/j.compedu.2021.104212