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Table Of Contents

Modern Methods of Career Guidance in the Kyrgyz Republic: Professional Self-Determination of School Students

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ABSTRACT. This article examines the importance of pre-profile preparation of school students for making informed career choices and highlights key challenges in organizing career guidance within general education institutions. It clarifies the main concepts, structural components, and indicators of students' readiness for professional self-determination, as well as outlines pedagogical conditions that support effective career orientation at the upper secondary level.

The study emphasizes the use of active and interactive teaching methods, practice-oriented approaches, and information and communication technologies that enhance students' readiness for future professional choices. Special attention is given to the organization of career guidance networking, involving cooperation between schools, students, parents, and employers through various forms of interaction supported by communicative platforms.

The article also highlights the importance of practice-based activities such as professional trials, internships, simulations, and career guidance games. The findings suggest that the implementation of these pedagogical approaches contributes to improving students' awareness and readiness for professional self-determination. The study reflects general conditions relevant to school education systems, including those of the Kyrgyz Republic, where strengthening career guidance remains an important educational priority.

Keywords: career guidance, professional self-determination, pre-profile preparation, students' readiness for career choice, pedagogical conditions, interactive methods, practice-oriented learning, school–employer cooperation, career guidance networking.

Introduction

The education system of the Kyrgyz Republic plays a crucial role in shaping the country's human capital and fostering the professional development of young people. According to statistics, the majority of graduates from pedagogical programs in the Kyrgyz Republic successfully integrate into the teaching profession. However, not all young individuals who enroll in pedagogical specialties choose education as their professional path. Conversely, some university graduates who are not formally trained as teachers realize that they want to pursue a career in education and begin developing a pedagogical career after graduation, which requires additional time to acquire relevant qualifications. It should be noted that such "career adjustments" among youth are associated with certain risks and tensions in the labor market for educators.

Experts point out numerous factors that complicate and prolong the professional self-determination of contemporary youth [3]. Data from recent sociological surveys identify one of the reasons as the inability of graduates from pedagogical colleges and universities to "settle" in the teaching profession. School-based practical experience often disappoints young teachers. The teaching profession is characterized by a high level of social activity and requires constant interaction across a wide range of age groups. Teachers engage with students, their parents, educational institution administration, and colleagues. Alongside subject knowledge, this demands advanced communicative competencies, high levels of self-organization, emotional intelligence, and stress resilience. Teachers must continuously develop professionally, mastering new teaching methodologies and technologies, and participating in various professional competitions and projects.

Contemporary research and expert opinions indicate that, despite the high social status and popularity of the teaching profession, there is a lack of awareness among school students about the specific nature of this work, the characteristics of individuals involved, and the skills and preferences required [4]. This may hinder students' conscious and informed decision to pursue teaching as a career.

In 2023, to address national economic development goals and strengthen the technological sovereignty of the Kyrgyz Republic, the Ministry of Education and Science of the Kyrgyz Republic began implementing a Unified Model of Career Guidance in educational institutions offering general education programs, starting September 1 [5]. The model is based on the "Ticket to the Future" project within the federal project "Success of Every Child," which utilizes professional self-assessment tests and hands-on professional trials.

When addressing modern challenges in school students' career guidance in general and their orientation toward pedagogical work in particular, it is important to consider that an essential context for students' professional self-determination is their cyber-socialization [6]. In the digital age, adolescents and young people spend a significant portion of their time online, actively engaging with social networks, messaging platforms, and other online resources. This creates new forms of communication and influences the development of interests, personal identity, and self-expression.

The phenomenon of cyber-socialization is reshaping paradigms of human interaction in the modern information society [7]. Cyber-socialization introduces new dimensions to the professional self-determination of students and creates additional challenges for pedagogical support. This underscores the need for scientific and pedagogical research focused on developing contemporary approaches to supporting students in their career decision-making. Experts note that, despite the robustness and psychopedagogical soundness of traditional career guidance practices, their tools are increasingly insufficient to address the needs of students in today's digital world [8]. Existing methods for career guidance (including orientation toward teaching) are not always able to account for the numerous factors characterizing professional self-determination of contemporary adolescents in the context of cyber-socialization. In the information world, digital data about an individual (their digital footprint) is becoming increasingly diverse and rich. However, such data has limited value if it is not systematically studied and analyzed. Big data technologies can transform this information flow into actionable knowledge. When assessing children's inclinations and needs, it is crucial that information obtained from various sources, including digital traces, is meaningfully analyzed and interpreted by adults. Otherwise, important psychopedagogical aspects affecting students' well-being, including their professional self-determination, may be overlooked. Big data technologies provide tools for processing and interpreting information related to a wide range of students' self-expression in cyberspace. Machine learning methods, data analysis algorithms, and artificial intelligence can help identify hidden behavior patterns and personality traits that may remain unnoticed without considering students' online activity.

Therefore, the focus on using big data in career guidance research is driven not only by the need to account for the diverse factors of students' personal development but also by the influence of cyber-socialization on their professional orientations [9, 10]. Data analysis algorithms can help prospective students receive personalized recommendations regarding specialty selection and career paths based on their interests, preferences, and abilities. Big data can also support labor market analysis and forecasting of future skill requirements, aiding students in choosing in-demand and promising professions. Collecting feedback from students and analyzing data on their successes and shortcomings in chosen fields can improve career guidance processes and assist individuals in achieving professional success [11].

The use of big data technologies in career guidance is significant because it allows for greater personalization. By analyzing large volumes of data, trends and patterns in professional interests can be identified, enabling students to make more informed decisions about their education and future careers [12, 13]. Such a systematic approach to data collection and processing, for example regarding school students, provides a more objective understanding of their professional interests and helps determine the most suitable career paths.

Research Aim

The aim of this study is to develop a novel organizational and pedagogical model for using big data technologies in the career guidance of school students toward pedagogical professions in the Kyrgyz Republic.

Research Objectives

- To analyze current challenges and difficulties in school students' career guidance toward the teaching profession.
- To justify the possibilities, methods, and conditions for utilizing big data technologies in the career guidance of students toward teaching.
- To develop a theoretically grounded organizational and pedagogical model for the use of big data technologies in guiding students toward pedagogical careers.

Materials and Methods

In the context of the Kyrgyz Republic, where the development of human capital and professional orientation of youth is a priority, this study employed a combination of exploratory and theoretical research methods, including idealization, modeling, and schematization, as well as theoretical and structural analysis, structural-semiotic analysis, predictive analytics, and simulation modeling based on neural network data and web parsing. Adopting a systematic approach enabled the identification of explicit shifts within the career guidance system, whose priority lies in the integration of information and technology solutions [14]. Nevertheless, currently, this is largely an adaptation of traditional methods to new digital platforms rather than radical transformations. The integration of big data technologies into the educational system is occurring gradually due to institutional inertia and a conservative approach to

innovation [15]. Still, this represents an inevitable developmental path, which is beginning to reveal new prospects and opportunities.

Big data technologies, successfully applied in marketing and other industries, have the potential to become powerful tools in career guidance [16]. Analysis of data related to individuals' preferences, interests, behavior, and prior experiences can facilitate the creation of personalized approaches in career guidance, ensuring more effective direction of school students toward professional work, including pedagogical careers. Such data analysis allows direct engagement with a person's digital footprint, providing a novel pedagogical method to assist children in their professional self-determination.

In the contemporary career guidance field, there is a growing need to study attributive characteristics. However, classical psychological personality models often prove insufficient in this context, as the choice of model is left to the individual, which can lead to ambiguous results [17]. The use of big data technologies removes the human factor from the analytical process, enabling the detection of patterns invisible to humans but identifiable by machines, such as behavioral patterns in digital environments.

Results and Discussion

In the context of the Kyrgyz Republic, where enhancing youth career guidance and professional development is a strategic priority, data collection was conducted at each stage of the study using big data technologies to analyze participants' digital profiles. In the initial stage, 10 individuals were involved and divided into two groups: the first group consisted of individuals not associated with the educational sector, while the second group included professional educators.

Information about participants' interests, hobbies, and activities was collected and analyzed. Comparative profiling revealed four common features indicative of potential affiliation with the pedagogical field. In addition, a shared pattern of interests was identified: all participants engaged in the education sector demonstrated particular interest in the categories "Education," "Society," "Science and Technology," and "Science."

Subsequently, the identified categories of interest were analyzed and compared between professional educators and participants not involved in the educational sector. The analysis confirmed the existence of a distinct pattern of interests characteristic of members of the professional pedagogical community, providing insights that could inform personalized career guidance strategies for students considering pedagogical professions.

In the Kyrgyz Republic, where developing human capital and supporting youth career guidance are strategic priorities, the next step after the initial research stage was to extrapolate the findings to a broader population—graduates of pedagogical programs. For this purpose, graduates from a state pedagogical college, who had

completed professional training and successfully entered the workforce in their field, were selected.

At this stage, the goal was to assess the percentage of alignment between the interests of graduates working in their professional field and the previously identified pattern of interest's characteristic of the pedagogical community. A total of 173 participants took part. The analysis shows the percentage of alignment between participants' interests and the pedagogical community pattern. The results confirmed that professional preferences and interests significantly influence individuals' behavior in digital environments. The identification of a consistent pattern of interests among people engaged in pedagogical work indicates that big data technologies can be used to improve the accuracy and effectiveness of career guidance for school students.

This comparative analysis enabled the design of an approach for modeling and identifying characteristics of professional communities, demonstrating the potential of big data technologies as tools for solving educational challenges.

However, the broad categories **"Education," "Society," "Science and Technology,"** and **"Science"** do not provide detailed insight into an individual's alignment with the pedagogical community at a more specific level. Therefore, an additional analysis of interest groups was conducted using machine learning overlay models, an advanced analytics platform, and a generative artificial intelligence tool. The results (Table X) allowed for tracing the formation of interests across each category, offering a more nuanced understanding of users' professional inclinations in digital environments.

Category	**Subcategories**
Education	Higher education, secondary vocational education (colleges, technical schools), online courses and learning platforms (Coursera , Skillbox , etc.), exam preparation (USE, OGE, IELTS, TOEFL), foreign languages, school education (secondary school, gymnasiums, lyceums), advanced training courses, professional retraining, preparation for Olympiads, educational seminars and trainings, scientific and research papers, textbooks and literature, distance learning, education abroad, student exchange programs, scholarships and grants for education, career guidance consultations, tutoring and private lessons, popular science events (lectures, conferences), study trips and educational tours, development of programming skills and IT courses, webinars on self-development and education, online simulators for exam preparation, courses on design and creative professions, parent-teacher meetings and educational events for parents, school textbooks and Stationery, preparation for university entrance (bachelor's and master's degrees), software development skills (communication, leadership, time management), educational programs for children (school clubs, sections), educational projects for adults (evening courses, mentoring programs), educational platforms for schoolchildren (for example, " Uchi.ru ", " Foxford "), MBA programs and business education, courses in management and administration, podcasts and video lectures on education, preparation for creative exams (music, art, drama), development of mathematical skills (clubs, courses in mathematics), online platforms for preparation for Olympiads, inclusive education (support for children with special educational needs), career counseling for students and graduates, courses in robotics and STEM areas, educational exhibitions and job fairs, interest groups on " VKontakte " dedicated to learning and self-development, programs for teaching children at an early age, development of creative thinking (courses and trainings), conferences on education and pedagogy, special

	Educational programs for company employees, courses in psychology and pedagogy, courses in financial literacy, master classes on personal growth and self-development, educational applications and programs for smartphones (for example, Duolingo , Lingualeo)
Society	Politics, charity, social projects, human rights, social inequality, ecology and environmental protection, volunteering , social movements, urban studies and the urban environment, migration and emigration, human rights organizations, social initiatives, animal protection, inclusion and accessibility, ethnic and cultural communities, civil society, freedom of speech, international relations, social reform, corruption and the fight against it, spiritual development, health and well-being, public opinion, demography and population, religious communities, civil activists, youth movements, public organizations, family issues, social research, labor rights, ethnic conflicts, child protection, public safety, support for the poor, globalization, consumer culture, social networks and their influence, intercultural relations, peacekeeping, national identity, cultural heritage, traditions and customs, social psychology, social support
Science and technology	Information technology, artificial intelligence, robotics, biotechnology, nanotechnology , engineering, space exploration, astrophysics, quantum physics, medicine and healthcare, genetics, neuroscience , environmental technology, renewable energy, nuclear physics, chemistry, particle physics, materials science, automation, virtual reality, augmented reality, blockchain , unmanned technology, computer science, cybersecurity , big data, the Internet of Things (IoT), telecommunications, 3D printing, autonomous vehicles, mathematical research, quantum computing, molecular biology, pharmacology, computer science, electronics, optics and photonics , cosmology, astronautics, geoinformatics , climatology, systems biology, agricultural technology , medical robotics, neural networks , industrial design, bioinformatics , biomedical technology, theoretical physics
Science	Astronomy, biology, chemistry, physics, geology, mathematics, psychology, sociology, ecology, genetics, scientific research, technology, artificial intelligence, neurobiology , molecular biology, scientific publications, experimental science, scientific conferences, scientific journals, education, scientific projects, innovation, scientific exhibitions, philosophy of science, educational courses, scientific blogs, popularization of science, scientific experiments, scientific achievements, research grants, scientific organizations, patents and inventions, scientific films, scientific podcasts, biomedical sciences, cybernetics, engineering, physical education and sports, anatomy, scientific technologies, statistics, economics of science, scientific paradigms, scientific theories, science fiction, science comics, science games, laboratory research, mathematical models, scientific seminars

Note: Compiled by the authors.

Below is a professionally translated and academically refined version of your text, adapted for a Scopus-indexed journal. I have added a brief reference to the Kyrgyz Republic at the beginning, removed specific institutional names where appropriate, generalized references to social networks, and maintained the scholarly tone.

In the Kyrgyz Republic, improving the regional system of career guidance for school students is an important component of educational policy aimed at strengthening the teaching workforce. Aggregated and structured data on identifying characteristics of professional communities can be effectively applied at the stage when students determine their educational trajectory after completing lower secondary education (Grade 9). According to our hypothesis, such data make it possible to construct an individualized career trajectory for each student/applicant, thereby reducing the risk of future disappointment and alienation from the teaching profession caused by errors in professional self-determination.

At the subsequent stage of the study, focused on designing an organizational and pedagogical model for the use of big data technologies in the development of a regional system of career guidance toward pedagogical professions, several general education schools were invited to participate in the model's development and piloting.

This phase involved 200 ninth-grade students. As in previous stages, participants' digital profiles were analyzed using big data technologies. Based on the previously identified pool of interests characteristic of the professional pedagogical community, participants' profiles were compared against these markers. The analysis identified 53 students whose interest patterns suggested a potential inclination toward the teaching profession.

Participants whose interests demonstrated a high degree of alignment with the identified attributes of the pedagogical community—and who intended to pursue vocational education rather than continue upper secondary schooling—were advised to consider enrolling in pedagogical college programs. Given that, in addition to the "Education" category, many of these students also demonstrated sustained interest in "Physical Education," they were recommended to consider a corresponding specialization. Of those who accepted the recommendation, 27 applied to a pedagogical college program in Physical Education, and 24 were successfully admitted following entrance examinations.

As a result of the study, an organizational and pedagogical model was developed, representing an algorithm for identifying professional interests based on data-driven analysis. The use of empirical digital data in decision-making enhances the objectivity of career guidance processes and supports evidence-based educational planning.

The proposed model is grounded in big data analytics and incorporates contemporary technologies, including machine learning models and advanced tracking tools, enabling the prediction of potential career trajectories based on the dynamics of students' interests. In the long term, such a model makes it possible to construct individualized educational and developmental pathways tailored to each student's interests, abilities, and needs. Furthermore, automation of data analysis and decision-support mechanisms optimizes career guidance processes and reduces time and resource expenditures.

The use of data parsing from open digital sources allowed for the collection of substantial information about students' profiles, including indicators related to their professional socialization. These data can inform the development of individualized educational and career strategies.

The proposed organizational and pedagogical model for applying big data technologies in a regional system of career guidance toward pedagogical professions is based on the following principles:

- leveraging the potential of artificial intelligence to enhance career guidance practices;
- reliance on patterns of students' cyber-socialization;
- consideration of aggregated identification attributes of the pedagogical professional community manifested in digital environments;
- continuity;
- multi-subject participation;

- personalization.

The stages defined in the proposed model correspond to the established logic of traditional career guidance practices supporting students' professional self-determination. At the same time, the integration of big data technologies provides instrumental enrichment of existing approaches, increasing their effectiveness.

An expert evaluation of the proposed model was conducted through a series of seminars discussing intermediate design results. The evaluation involved 67 representatives of the pedagogical and academic community, including school teachers, pedagogical college faculty, and university researchers holding doctoral and candidate degrees in pedagogy, physics and mathematics, and philosophy.

Figure 2 presents the mechanisms for implementing the above principles within the model framework, illustrating the set of stages, conditions, and tools that form an information-activity-based extension to traditional formats of career guidance for school students.

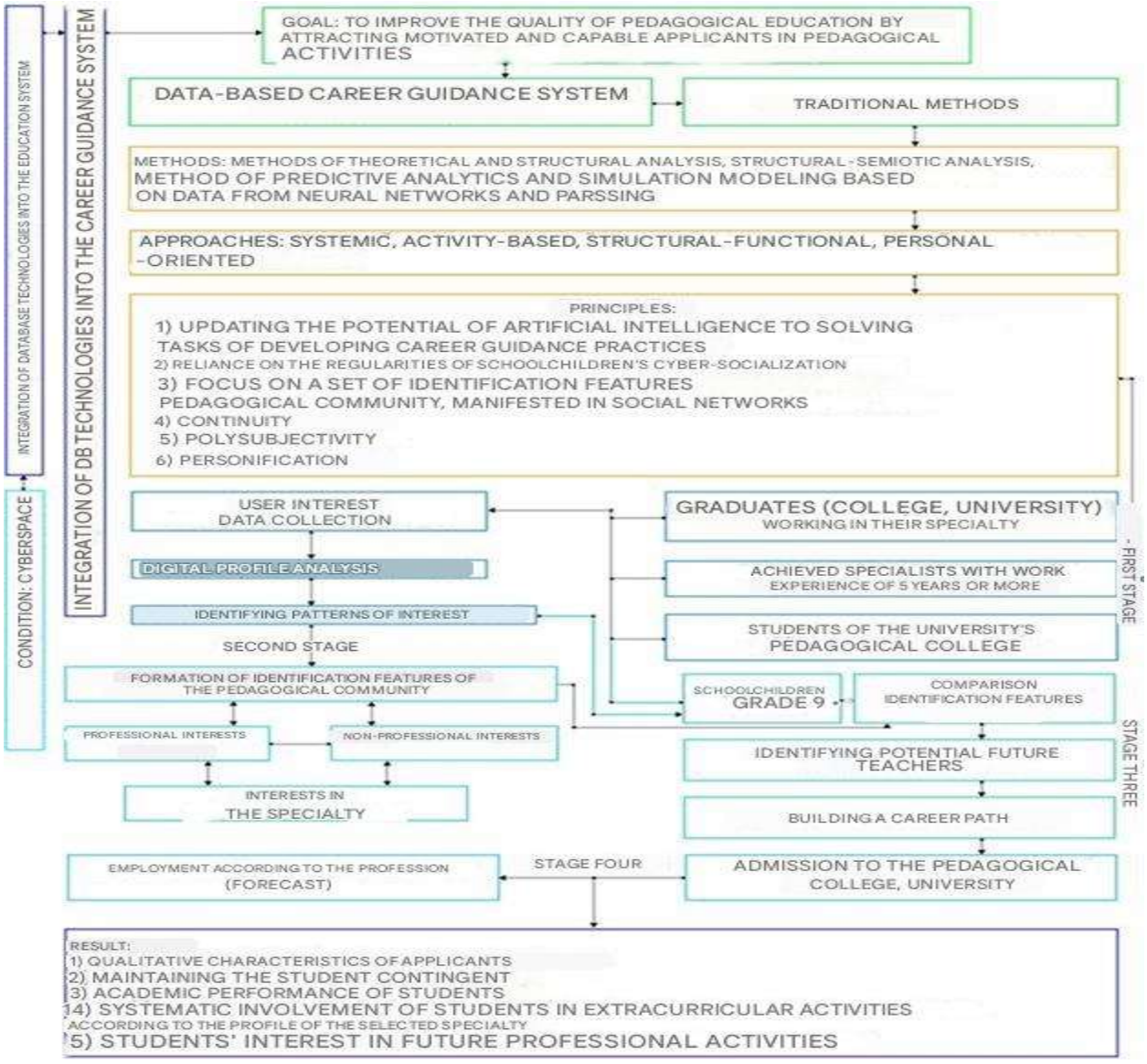

Figure 2. Organizational and pedagogical model for the application of big data technologies in the regional system of career guidance for school students toward pedagogical professions (developed by the author).

In the Kyrgyz Republic, strengthening the system of professional orientation for school students is an important element of educational policy aimed at ensuring the sustainable development of the teaching workforce. The use of big data technologies in the field of career guidance and professional self-determination opens additional opportunities for identifying both explicit and latent interests and preferences of individuals, including those related to pedagogical professions.

Data-driven approaches make it possible to obtain more objective conclusions based on the collection and analysis of large-scale digital information. The results of such analyses can subsequently be used by educators, students, and their parents when making informed decisions regarding educational and career pathways.

The analysis conducted with the use of artificial intelligence tools made it possible to identify both explicit and implicit professional interests characteristic of members of the contemporary pedagogical community. At the same time, the study revealed additional methodological opportunities for improving career guidance practices aimed at attracting school students to the teaching profession.

The research also enabled the identification of an initial pattern of characteristics associated with the professional pedagogical community. These findings may serve as a foundation for designing individualized career trajectories for school students and for further improving the effectiveness of career guidance systems within the education sector.

In the Kyrgyz Republic, preparing school graduates for a conscious choice of their future professional field has become one of the key priorities of national education policy. Both the state and society recognize that early career orientation plays a crucial role in shaping young people's educational trajectories and facilitating their successful transition into professional education and the labor market. The earlier students determine their prospective career path, the more effectively they can prepare for final school examinations and adapt to the learning environment of either vocational colleges or universities. Early professional self-determination also contributes to greater engagement and motivation during subsequent stages of professional education.

The importance of addressing this challenge is reflected in the regulatory and strategic documents governing the development of the education system in the Kyrgyz Republic, including national educational standards, youth development strategies, and educational policy programs aimed at strengthening the role of career guidance in schools. These frameworks emphasize the significance of labor education and career awareness as essential components of the educational process. At the level of basic secondary education, particular attention is given to fostering students' interest in exploring different professions and types of labor activities, including through the application of subject knowledge in practical contexts. Another important objective is the development of students' readiness to make informed decisions regarding their future educational pathways and life plans while considering both personal aspirations and societal needs. These priorities highlight the necessity of creating supportive institutional conditions within general education schools that facilitate students' preparedness for professional choice.

Despite the clear recognition of the importance of career guidance at the policy level, the current situation in educational practice does not fully correspond to the expectations placed on schools regarding the professional preparation of students. Research indicates that a significant proportion of school graduates complete their education without clearly defined professional plans. This situation has remained relatively unchanged for nearly two decades, demonstrating the need to reconsider existing strategies and approaches to career guidance among young people.

One of the key reasons for this persistent challenge lies in the fact that, within mainstream educational practice, career guidance activities are still largely based on informational approaches and traditional forms of guidance. Such methods often focus on providing general information about professions rather than supporting students in developing a deep understanding of their interests, abilities, and potential career trajectories. As a result, existing practices are often insufficient for addressing the complex task of supporting students' professional self-determination in the context of rapidly changing social, technological, and labor market conditions.

In Kyrgyz Republic, as in many developing educational systems, the issues of professional orientation and career self-determination of young people are becoming increasingly important in the context of socio-economic transformation and the evolving labor market. Preparing school students for a conscious and informed choice of profession is therefore considered one of the key objectives of the modern education system.

In scientific literature, the issues of career guidance and professional self-determination have been widely studied and presented. In particular, the works of Ksenia Abulkhanova-Slavskaya, Boris Ananyev, Mikhail Dyachenko, Nikolai Zakharov, and Evgeny Klimov, among many other scholars, address key issues related to preparing young people for the choice of a future profession.

However, a detailed analysis of psychological and pedagogical sources indicates that insufficient attention has been paid to the organization of career guidance for school students at the stage of pre-profile training. In particular, the pedagogical conditions necessary for effective career guidance during the pre-profile stage remain insufficiently developed and theoretically substantiated.

Career guidance can be defined as a system of scientifically grounded measures aimed at preparing young people for choosing a profession while taking into account their personal characteristics as well as the socio-economic conditions of the labor market. It also involves providing assistance to young people in professional self-determination and employment [2;3]. In this regard, career guidance for school students serves as an essential condition for making a conscious professional choice that corresponds to their abilities and individual potential.

In the Kyrgyz Republic, career guidance represents a complex set of coordinated activities involving educational institutions, employment services, and other stakeholders. Nevertheless, practical experience demonstrates that several shortcomings remain in the organization of career guidance activities in modern educational institutions. Among the most significant problems are the following: an irrational selection of the target audience for career guidance information (career guidance activities should involve not only graduating students but also learners in

lower grades as well as their parents); the predominance of passive forms of work (traditional career guidance methods used in schools include vocational diagnostic interviews, career guidance games, questionnaires, meetings with successful graduates and professionals from the parent community, and "career fairs," which indicates the dominance of informational and diagnostic-consultative approaches while practical and activity-oriented methods remain underutilized); partial exclusion of parents from the process of professional decision-making; insufficient methodological support for career guidance activities; and weak motivation among participants involved in the career guidance process. Next, it is necessary to consider the essential characteristics of pre-profile training. According to the Concept of Profile Education (2002), students completing basic secondary education should be prepared to choose a specialized academic profile. At the same time, it should be emphasized that the pedagogical staff of educational institutions must create appropriate conditions to ensure such readiness among students [5].

At the same time, the results of numerous studies indicate that students in grades 8–11 are often not prepared to make a conscious and realistic choice of profession. In practice, many students have insufficient knowledge of their own abilities and interests and demonstrate limited awareness of the diversity of professions and career opportunities.

Today, pre-profile training can be considered a system of pedagogical, psychological-pedagogical, informational, and organizational activities that facilitate the self-determination of students in the upper grades of basic secondary school regarding the specialized areas of their future education and the broader sphere of subsequent professional activity. This also includes the choice of an academic profile and a specific place of study at the senior level of secondary school or other pathways for continuing education [1;4].

Thus, the effective organization of pre-profile training constitutes a key element of career guidance within the school system and significantly determines the overall effectiveness of vocational orientation activities. The success of career guidance at this stage largely depends on the implementation of a set of pedagogical conditions. In the context of educational research, pedagogical conditions are interpreted as a combination of factors, circumstances, and targeted measures that ensure the effective functioning of a pedagogical system and support the development of students through the educational and cognitive process (A.S. Belkin, L.P. Kachalova, E.V. Korotaeva, L.M. Yakovleva, etc.).

The first important pedagogical condition involves clarifying the conceptual foundations of the notion of "readiness for career choice." This requires identifying its essential characteristics, structural components, as well as the criteria and indicators that reflect the level of students' preparedness to make informed professional decisions. Readiness for a conscious career choice can be interpreted as an integrative personal characteristic that encompasses knowledge about various professional fields, as well as the skills, competencies, beliefs, and value orientations necessary for making a balanced professional decision. This readiness develops within the educational environment and reflects the formation of a stable orientation among adolescents toward a deliberate and responsible selection of their future profession.

The structure of readiness for professional choice typically includes several interrelated components: motivational–value, cognitive, and activity-oriented [7]. Accordingly, the entire system of career guidance activities implemented within the school environment, including the stage of pre-profile preparation, should incorporate educational forms, methods, and technologies that influence each of these components.

These structural elements of professional readiness may also serve as diagnostic criteria for assessing students' preparedness for career choice. Such assessment allows educators to identify potential difficulties in students' professional self-determination and to introduce timely adjustments to career guidance practices implemented in educational institutions.

The second significant pedagogical condition is the application of active and interactive teaching methods, as well as practice-oriented and information and communication technologies that contribute to the development of students' readiness for professional choice. Among the most effective approaches are educational and professional trials, profile selection simulations, career-oriented projects, social practice activities, career guidance expeditions, interactive career games, business simulations, and quest-based learning formats.

Modern digital technologies also play an increasingly important role in the process of professional self-determination. In particular, specialized online platforms provide students with access to information about educational institutions offering training in various professional fields, admission requirements, institutional rankings, and the labor market demand for graduates. These resources help students explore potential educational pathways and evaluate the prospects associated with different professions.

In addition, innovative technological environments significantly expand the possibilities of career guidance. Among them are immersive learning technologies such as virtual reality (VR) and augmented reality (AR), as well as specialized educational laboratories and technology-oriented learning spaces that allow students to gain practical experience in emerging professional fields, including information technology and applied sciences.

The third condition for effective career guidance activities is the development of a networking-based model of interaction among the key participants in the professional orientation process. Career guidance networking represents an integrated system of relationships connecting schools, students, parents, higher education institutions, and employers.

Within this system, the school performs a coordinating and mediating role by organizing different forms of pedagogically guided interaction, including:
(1) parent–student communication,
(2) school–student interaction,
(3) employer–parent engagement, and (4) employer–student collaboration [6].

A key instrument supporting such interaction is the creation of communicative platforms where students, parents, and representatives of the professional community can engage in dialogue. These platforms may be organized within schools, colleges, or universities and serve as spaces for professional discussion, experience exchange, and career exploration.

Practical experience shows that in many cases the roles of parent and employer representative are combined in the same individual. Consequently, the pedagogical strategy of schools should focus on two interconnected objectives: strengthening the awareness of parents as potential representatives of professional communities and encouraging employers to adopt a more active parental and mentoring role in the career guidance process. One effective approach is the organization of parental master classes, where parents present their professional experience to students and act as representatives of real professional environments and potential future employers [6].

Preparing school graduates for a conscious and informed choice of their future professional field has become one of the key priorities of educational policy in the Kyrgyz Republic. Both the state and society recognize that early career determination significantly influences the quality of students' academic preparation and their successful transition to subsequent stages of education. The earlier students define their professional interests, the more effectively they can prepare for final examinations and adapt to new educational environments, whether in vocational education institutions or universities. Moreover, early professional self-determination enhances students' motivation and engagement in the learning process within professional education settings.

The importance of this task is reflected in national educational standards and strategic policy documents regulating the development of the education system in the Kyrgyz Republic. These frameworks emphasize the role of career guidance and labor education as essential components of the educational process. In particular, they highlight the need to foster students' interest in the practical exploration of professions and various types of labor activities, including through the application of subject-specific knowledge. Another key objective is to develop students' readiness to make informed decisions regarding their educational pathways and life plans, taking into account both individual aspirations and societal demands. This underscores the necessity of creating appropriate pedagogical conditions within general education institutions to support students in making a well-grounded professional choice.

However, current pedagogical practice does not fully meet these policy expectations. Empirical evidence indicates that a significant proportion of school graduates complete their education without clearly defined career plans, and this trend has remained relatively stable over the past two decades. Such persistence suggests the need for a critical reassessment of existing strategies and approaches to career guidance for young people.

One of the primary reasons for this situation is that, within mainstream educational practice, career guidance is still predominantly based on informational approaches and traditional forms of work. These methods tend to focus on providing general knowledge about professions rather than facilitating the development of students' self-awareness, competencies, and practical experience necessary for making informed career decisions. As a result, they are insufficient for addressing the complex and dynamic challenges of professional self-determination in contemporary educational and socio-economic contexts.

In the Kyrgyz Republic, career guidance represents a комплексная система coordinated activities involving educational institutions, employment services, and

other stakeholders. However, practical experience reveals several shortcomings in the organization of career guidance within modern educational institutions.

Among the key limitations are the inappropriate targeting of career guidance activities, as they are often focused primarily on graduating students, while insufficient attention is given to younger learners and their parents. Another significant issue is the predominance of passive forms of work. Traditional methods of career guidance in schools typically include vocational diagnostic interviews, career-oriented games, questionnaires, meetings with successful graduates and professionals (often from the parent community), and career fairs. This indicates the dominance of informational and diagnostic-consultative approaches, while practice-oriented methods remain underutilized.

In addition, there is often limited involvement of parents in the process of students' career decision-making, a lack of sufficient methodological support for career guidance activities, and generally low motivation among participants in the career guidance process. It is therefore necessary to consider the essential characteristics of pre-profile training. According to the Concept of Profile Education (2002), students completing basic secondary education should be prepared to choose an academic specialization. In this regard, it is important to emphasize that teaching staff must create appropriate pedagogical conditions to ensure students' readiness for such a choice [5].

At the same time, findings from numerous studies indicate that students in grades 8–11 are often not adequately prepared to make a conscious and realistic career choice. In practice, many students lack a clear understanding of their own abilities and demonstrate insufficient awareness of the diversity of professions and career opportunities.

Conclusion

The study highlights the critical importance of improving career guidance systems in general education, particularly at the stage of pre-profile training. The findings confirm that, despite the recognition of career guidance as a key priority in educational policy, existing practices remain insufficiently effective in supporting students' conscious and informed professional self-determination.

One of the main limitations of current approaches is their reliance on traditional, predominantly informational and diagnostic methods, which do not adequately address the need for practice-oriented and personalized career guidance. In addition, insufficient involvement of parents, weak methodological support, and low motivation among participants significantly reduce the overall effectiveness of career guidance activities.

The analysis also demonstrates that a substantial proportion of students in grades 8–11 are not prepared to make realistic and informed career choices. This is largely due to a lack of self-awareness, limited understanding of the labor market, and insufficient exposure to professional environments. These findings indicate the necessity of creating targeted pedagogical conditions that support the development of students' readiness for professional choice.

In this regard, pre-profile training should be considered a ключевой этап in the formation of career readiness, requiring a systematic and integrated approach. Effective

career guidance at this stage must be based on the development of motivational, cognitive, and activity-based components of readiness, supported by the implementation of active, interactive, and practice-oriented educational methods. Furthermore, the study emphasizes the importance of expanding the role of digital and innovative technologies, as well as strengthening networking interactions among schools, families, higher education institutions, and employers. Such a multidimensional approach enables the creation of a more flexible, personalized, and evidence-based career guidance system.

Overall, the results of the study suggest that enhancing the effectiveness of career guidance requires a transition from traditional informational models to more integrated, practice-oriented, and student-centered approaches. This transformation will contribute to more successful professional self-determination of students and improve their readiness for further education and participation in the labor market.

REFERENCES

1. Abulkhanova-Slavskaya, K. A. (1991). *Strategy of life*. Moscow: Mysl.
2. Ananyev, B. G. (2001). *Man as a subject of cognition*. St. Petersburg: Piter.
3. Klimov, E. A. (1996). *Psychology of professional self-determination*. Moscow: Academia.
4. Zakharov, N. N. (2008). *Professional orientation of school students*. Moscow: Prosveshchenie.
5. Belkin, A. S. (2000). *Pedagogy of success*. Moscow: Pedagogika.
6. Korotaeva, E. V. (2010). *Pedagogical interaction and its development*. Moscow: Akademiya.
7. Boyd, D., & Crawford, K. (2012). Critical questions for big data. *Information, Communication & Society*, 15(5), 662–679. https://doi.org/10.1080/1369118X.2012.678878
8. Mayer-Schönberger, V., & Cukier, K. (2013). *Big data: A revolution that will transform how we live, work, and think*. London: John Murray.
9. Sydykbaeva, M., Rysbekova, D., Mamyrbaeva, N., & Belgybaev, A. (2026). LANGUAGE COMPETENCE AS A MULTIFACETED SET OF KNOWLEDGE AND ABILITIES. Veredas Do Direito, 23(3), e234660. https://doi.org/10.18623/rvd.v23.n3.4660
10. Siemens, G., & Baker, R. S. J. d. (2012). Learning analytics and educational data mining. *Proceedings of the 2nd International Conference on Learning Analytics and Knowledge*, 252–254. https://doi.org/10.1145/2330601.2330661
11. Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Cambridge: Polity Press.
12. Bazhuk, O. V., Berestovskaia, L. P., & Mereckaia, T. V. (2022). Formation of students' readiness for professional self-education. *Perspectives of Science and Education*, 55(1), 111–129. https://doi.org/10.32744/pse.2022.1.7
13. Mykyteichuk, K., et al. (2022). Future teacher training in inclusive education. *Revista Romaneasca pentru Educatie Multidimensionala*, 14(2), 244–256. https://doi.org/10.18662/rrem/14.2/580
14. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Boston: Center for Curriculum Redesign.
15. Ministry of Education and Science of the Kyrgyz Republic. (2023). *Unified model of career guidance in general education institutions*. Bishkek.