

## PEHPP 2019

### Pedagogical Education: History, Present Time, Perspectives

### MODELS AND STRATEGIES OF INFORMATION DIVERSITY MANAGEMENT

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#### *Abstract*

The article discusses the possibilities of managing diversity in the conditions of informatization and digitalization of society, economy and education. In a situation when electronic educational resources and modern sources of information are crowding out traditional methods of teaching, when pedagogical counseling is becoming an online format, it becomes necessary to design new models and determine strategies for managing information diversity. In the article, the authors propose information-diversification and information-consulting models that are developed on the basis of the information-marketing approach and take into account the specifics of the modern sociocultural context of the development of society and education. The article contains a description of the leading socio-pedagogical strategies for managing diversity in heterogeneous information and educational environments: analytical, orientation and transformative. The strategies proposed by the authors allow educational systems to respond more flexibly to the requests of consumers of educational services; teachers-consultants will be able to take into account the needs of young parents, who like their children, become subjects of the information society. The authors of the article cite the results of an online survey of young people living in Russia and the Republic of Belarus. The purpose of the survey was to identify the influence of various sources of information on the choice of an educational route by young people. The article also provides data from a survey of young parents allowing to identify their needs for online pedagogical counseling on raising children. This article contains recommendations for users of educational and consulting services.

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**Keywords:** Digitalization of education, diversity management models in educational systems, diversity management strategies, information diversity, information diversity management, information-marketing approach.



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## 1. Introduction

In various areas of public life, including education, not only ethno-cultural, religious, social, intellectual and physical diversity but also informational diversity is becoming stronger; this tendency is associated with increasing flows of diverse information, including scientific and educational information, and modern ways of obtaining and processing it, a significant influence of information sources on the way of thinking, on the worldview, educational needs, and the nature of interpersonal and intergenerational communication.

In the present research the term “information diversity” is defined as a combination of informational sources and channels that allow receiving diverse, significant in volume, various and sometimes alternative information and opinions about the world that can be used in different spheres of human and social life, including education. In our opinion, the concept of information diversity includes the information arrays proper, containing information used by humans, sources and channels for obtaining this information, and the multiplicity of methods of processing information for the purpose of its use by individuals and social groups in various fields of life, including education.

Based on the several researches it can be concluded that information diversity, like other types of diversity, is a multidimensional and rather controversial phenomenon (Bryleva, 2008; Ilyin, 2013; Mirzaev, 2017). On the one hand, it is a powerful source for the development of social, educational and communication systems, as well as human resources. On the other hand, information diversity creates many pedagogical problems that public and educational institutions are called upon to solve and which require teachers to develop new professional competencies. At present a teacher must be able to manage information diversity, it is necessary to know the main informational sources used by the students, the degree of their influence both on worldview positions and on the choice of educational trajectory.

The study of the problem of information diversity and its management is relevant due to the following circumstances:

- informatization and digitalization of society, economy and education;
- a change in the role of a teacher in the educational process who ceases to be the main source of information and a transmitter of knowledge and begins to play the role of a consultant, mentor, tutor, facilitator of the process of self-education of students;
- spreading of a new communicative culture in modern society which limits live interpersonal communication and immerse adolescents in virtual network interaction. At the same time, there is a gap between the communicative culture of the “digital generation” and the traditional communicative culture, including a culture of thinking, a culture of feelings and a culture of speech (Dobrinskaya & Martynenko, 2019);
- the contradictory role of Internet, which, on the one hand, is a source of new knowledge, and on the other hand, can influence the consciousness of the younger generation. Currently, computer networks are becoming a kind of refuge for many adolescents from real life problems; they relieve feelings of loneliness, give confidence in one's own strengths and abilities, and help find peers and adults who have similar problems (Soldatova & Rasskazova, 2013).

## 2. Problem Statement

To identify the potential of educators at educational organizations to manage information diversity in the context of digitalization of society, economics and education, as well as the spread of a new communicative culture and network interaction of children and adults in a virtual space. The researchers suggest that the process of communicative interaction between teachers, parents and students will be effective if effective models and pedagogical strategies for managing information diversity are developed. To identify the most popular sources of information among Russian and Belarusian youth that influence the choice of an educational route by young people.

## 3. Research Questions

The article strives to answer the following research questions:

**3.1.** What sources of information have the greatest influence on the choice of educational route by young people in Russia and the Republic of Belarus?

**3.2.** What are the needs of students' parents in pedagogical counseling which is provided, *inter alia*, with the help of new information technologies?

**3.3.** What pedagogical models and strategies allow educational systems to respond flexibly to the needs of consumers of educational services in the context of information diversity?

## 4. Purpose of the Study

To develop models and strategies for managing information diversity on the basis of the information-marketing approach, taking into account current trends in the development of educational and communication systems.

## 5. Research Methods

The research was based on a transdisciplinary methodological paradigm which considers the interaction not only between specific scientific disciplines (in our case, pedagogy and management), but also explores the phenomenon of informational diversity in society, culture, science and education.

The transdisciplinary methodological paradigm includes both a number of traditional approaches to the study of pedagogical phenomena and a new approach reflecting modern trends in education and pedagogical science. According to Kokovikhin, Kulapov, and Vorakova (2017), the institutional, resource theories and the concept of "competency-based approach" in management are the theoretical basis for managing diversity. The traditional approaches that were used in the study include the systemic, systemic-synergetic, socio-psychological, sociocultural approaches, etc. However, the authors chose the information-marketing approach as the main scientific and methodological approach to designing new diversity management systems.

The information-marketing approach integrates two research approaches on a common methodological basis: the information approach which focuses on the use of information systems and technologies for obtaining information important for managerial and pedagogical decisions and the

marketing approach which makes it possible to adequately assess the situation in the educational services market and the labor market and use the data obtained to make managerial decisions necessary for the effective development of educational systems.

Pure marketing is aimed at a systematic study and analysis of consumer behavior, distribution channels, and competition in order to develop and implement effective forecasting strategies and meet customer needs. For education, marketing can act as a means of resolving the contradiction between the fast pace of change in society and the slow pace of the dynamics of education; it can become an adequate tool for matching the demand for educational services and their market offer (Belgorodsky, Dembitsky, & Zотов, 2015).

The information-marketing approach allows exploring the variety of information channels that reflect the situation on the market of educational services and products, as well as the impact that these channels have on the educational choice of potential consumers. Using the information-marketing approach, the audience of social networks and the requests of their users, the formation of prices in the educational services market are analyzed; it contributes to the rapid adoption of managerial decisions taking into account the rapidly changing market situation. From the point of view of our study, the information-marketing approach can serve as a methodological basis for the design of new models and definition of strategies for managing diversity in educational systems (Pevzner, Petryakov, Donina, & Shaydorova, 2018).

Besides the above-mentioned theoretical scientific approaches, the methodological foundations for the new models are laid down in the leading ideas and value-semantic settings of the pedagogical metatheory of diversity management which were developed by the authors and reflected in their publications (Pevzner, Sherayzina, & Petryakov, 2017).

Having determined the scientific and methodological approaches to the new models design, the authors developed a basic model for managing diversity in educational systems. Based on this model, in the course of the study, special models were designed which consider the changing sociocultural context of educational systems development. The basic model included five units: conceptual-targeted, diagnostic, formative, analytical, and effectiveness units.

In the first unit of the model, the purpose and methodological foundations of managing information diversity in educational systems were determined. The first diagnostic unit involved the collection and analysis of information on the socio-cultural environment in an educational organization, as well as the analysis of curricula and programs containing multicultural components and developing a tolerant attitude of schoolchildren to various social groups. The diagnostic unit also contains an audit of personnel policy; it ensures equal opportunities for professional self-realization of teachers and employees in an educational organization.

The formative unit of the model contains three modules: organizational-managerial, psychological-pedagogical and information-communicational. Organizational-managerial module provides conditions for the formation of a favorable heterogeneous environment and the training of teachers for working with children with special educational needs. The psychological-pedagogical module determines the strategies for the formation of intercultural competence and reasonable tolerance among teachers, parents and

schoolchildren. The information-communicational module provides a way to bridge the digital gap and create an effective information-educational environment.

The second diagnostic unit presupposes the re-diagnostics after the introduction of strategies for managing information diversity in order to correct and improve them. In the course of a comparative analysis of the results of the first and second diagnostic units, the development dynamics of the studied pedagogical objects in the process of managing informational diversity is monitored.

The effectiveness unit contains the criteria and indicators of educators' competence in the field of diversity and the effectiveness of socio-pedagogical strategies for managing diversity in a heterogeneous information and educational environment.

To achieve the research objectives, the following methods were used: theoretical analysis of psychological, pedagogical, philosophical, and sociological literature on research issues, relevant experience in the field of marketing and information technology in education; observation; survey method (questioning, interviewing); diagnostic methods (testing, expert assessment); theoretical methods (analysis, synthesis, generalization); methods of mathematical data processing.

## 6. Findings

The basic model presented in the methodology served as the foundation for the development of information-diversification and information-consulting models as part of the information-marketing approach.

The information-diversification model involves diagnostic procedures, these include identifying and evaluating relevant information sources for educational services in order to determine the completeness, reliability, correlation of objective (official information, ratings, statistics, etc.) data and subjective assessments of the quality of educational services by consumers (parental reviews, students, etc.); defining the main typological groups of real and potential students with special educational needs (people with disabilities, migrants and their children, gifted people, etc.). Based on the diagnostic data, a general assessment of the information diversity and its role in the regional educational environment is given.

The model under consideration also provides for the diversification of existing educational systems based on the analysis of information flows diversity (organizational-managerial component). Diversification may relate to educational programs profiling, digitalization of the educational process and system of managing organization, etc. In order to meet the individual needs of students, the model implies the creation of an information-educational navigator to guide consumers in the formed educational space of the region.

The information-consulting model involves the integration of two interrelated processes: the process of assessing and analyzing informational diversity and the process of advising various consumer groups in a virtual informational and educational environment. As an example of the implementation of the information-consulting model, we can use online pedagogical counseling of families raising children of different ages. In modern conditions, pedagogical counseling of a family is often carried out in the virtual space; it meets the individual needs of consumers, who, as a rule, belong to young and middle generations.

The implementation of the information-consulting model can become a catalyst for developing a variety of consulting services and mastering innovative forms of online pedagogical counseling. One of

these innovative forms is Instagram pedagogical coaching. Instagram family coaching wins in comparison with other types of pedagogical counseling, since it meets the needs of the person in the information society to receive the maximum amount of useful information as quick as possible, avoiding lengthy searches and long reading (Atkinson & Chois, 2008).

In the research framework, in order to test information models, the authors of the article conducted an online survey among young people of different age groups from 17 to 25 years old, who study at various educational institutions of the North-Western region of Russia. At the same time, a survey of representatives of Belarusian youth in the Vitebsk and Mogilev regions was conducted. According to the data obtained in the Belarusian regions, almost all respondents (97%) use Internet with various types of access: wired network, Wi-Fi and cellular networks. The vast majority of young people access Internet from home. The least number of young people access Internet services at the places of study - 13.4%

For present-day Belarusian young people, Internet has a number of attractive advantages, as the respondents note: the ability to provide a significant amount of information (86%), easy access to information (82%) and low financial costs (76%). The respondents use Internet to search for useful information and news (98%), to communicate in social networks (94.9%), to solve everyday problems (62%), to watch and download movies, music, software, etc. (37%). Quite often, Belarusian youth use Internet for educational purposes (72%), which teachers of educational organizations should consider. The most important advantage of Internet for Belarusian youth is the opportunity to feel "a part of the global media space, and not just a resident of their own country", thereby expanding their opportunities for development and self-realization

To diversify educational systems and identify potential university applicants, it seems important to determine the sources of information that most affect the students' choice of educational prospects. The survey participants were asked to evaluate the most important sources of information for educational choice and rank them on a scale of 1 to 7. Next, the average score for each of the information sources was calculated. According to the data obtained, the most significant sources of information are the web-sites of educational organizations (4.74), reviews in social networks about the quality of education, the conditions for studying and living in universities and colleges (4.62), parents, teachers and acquaintances (4.19). Among less significant sources, getting information from print sources (2.8) and the media (2.8) was noted. Judging by the results of the survey, advertising products (3.37) distributed by educational organizations do not always reach their target audience.

For the implementation of the information-diversification model of managing informational diversity, the expectations and wishes of future university applicants in regards to educational services provided, as well as the channels through which this information is delivered to consumers, are of considerable interest. As the online survey showed, the most popular channels were computer networks, blogs, and websites of educational organizations. They are chosen by 76% of respondents. At the same time, 36% of potential applicants turn to student government bodies and the administration of educational institutions for clarification.

As for the expectations and wishes of future students, they are concentrated around the following areas of activity and study conditions: the availability of a modern computer and laboratory base (74%), the ability to choose training modules and build an individual educational route (47%), participation in

scientific and educational projects and international exchange programs (54%), comfortable social conditions, the ability to engage in artistic creativity and sports (62%).

In order to study the efficiency of the information-consulting model, opinions of 600 subscribers of the electronic educational resource were studied; this resource provides online pedagogical counseling for parents raising small children. In the course of the study the following questions were clarified: What are the parents' motives for choosing a teacher-consultant in the virtual space? What forms of clients' interaction with a teacher-consultant are the most popular? What is the impact of online counseling on parent-child relationships? What is the degree of parental satisfaction with pedagogical Instagram coaching?

As the study showed, the main motivation for choosing an online coach was the professionalism and popularity of a consultant (62% of subscribers); accessibility of the proposed information (75%); the visibility of the materials presented (70%); sharing of a consultant's own experience in raising children (86%). The most popular forms of online pedagogical counseling are online diagnostics (53%); thematic video stories (12%); thematic posts (12%); webinars (16%); live broadcasts (12%); individual online consultations (43%).

According to respondents, online counseling had a positive impact on the relationship between parents and children: the number of destructive conflicts between parents and children decreased (40%); the psychological climate in the family has improved (54%); the degree of mutual understanding between representatives of different generations in the family increased (46%). The study revealed a high enough degree of parents' satisfaction with Instagram pedagogical coaching (83%). The data obtained indicate the productivity of the information-consulting model.

## 7. Conclusion

As the research showed, the management of information diversity in the field of education involves, firstly, identifying the sources and channels of information that have the greatest impact on students choosing an educational route; secondly, the development of the ability of educational organizations to respond flexibly to the diverse needs of various population groups, including people with special educational needs, with the aim of diversifying educational systems and pedagogical processes; thirdly, teaching students to navigate the diverse flows of information, to possess rational methods for its selection, processing and analysis, to be able to extract and organize information useful for vocational and educational choice.

The basic conceptual model of diversity management in educational systems developed by the authors served as the basis for the design of information-diversification and information-consulting models that reflect current trends in considering informational diversity in society and in the educational system. These models are multi-international in nature. They are aimed, firstly, at developing the information culture of teachers and students in a diversified society, economics and education; secondly, the diversification of educational systems and pedagogical processes in accordance with the various needs of different population groups in a heterogeneous society; thirdly, on-line counseling of the educational process subjects, as well as families with children, in a virtual educational space.

Considering the transdisciplinary methodology of research and designing diversity management models, the provisions of the information-marketing approach, the results of an experimental study of the information preferences of young people in the regions of Russia and the Republic of Belarus, as well as the results of a survey of parents with small children on the quality of online pedagogical counseling, we can recommend to managers and teachers of educational organizations a number of socio-pedagogical strategies of managing diversity in heterogeneous educational environment. These are analytical, orientation and transformative strategies.

According to the first strategy, it is recommended to identify and analyze relevant sources of information about educational services; determine the degree of completeness and reliability of the information provided by these sources; correlate objective (sites of institutions, official information, etc.) and subjective (reviews of parents, students, etc.) assessments of the quality of education. It is recommended to use an analytical strategy to assess the needs of students and parents raising children of various age groups for consulting services provided in the virtual space, as well as the degree of customer satisfaction with the quality of educational and consulting services.

The aim of the orientation strategy for managing informational diversity is the creation of information-educational navigators to guide students in the flow of information with the aim of designing their individual routes in the implementation of educational processes significant for them. The authors recommend using this strategy to systematize information processes and create navigators in accordance with information requests, personal, educational and vocational prospects of students.

A transformative strategy is to be used to find the optimal combination of content and technologies for transforming the educational environment into the form most requested by students. In this case, one should take into account the trends in the development of modern education, in particular the spread of digital technologies and tools in educational organizations. The basis for the diversification of the educational environment is the acquisition of new competencies in the field of digitalization of education; these competences can be obtained in the system of formal, non-formal and informal learning. These types of training can be implemented both through a computer and networks based training systems and using distance learning systems in real time or off-line.

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