



ИНСТИТУТ  
ОТРАСЛЕВОГО  
МЕНЕДЖМЕНТА

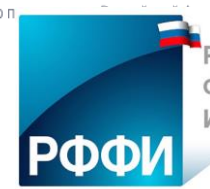


МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ  
РОССИЙСКОЙ ФЕДЕРАЦИИ



Минпросвещения России

Министерство п



РОССИЙСКИЙ ФОНД  
ФУНДАМЕНТАЛЬНЫХ  
ИССЛЕДОВАНИЙ

# Russian Presidential Academy of National Economy and Public Administration

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with the financial support of the Russian Foundation for Basic Research Project No. 19-29-14016 -mk  
"Methodology of Big Data Analysis in Education and its Integration into Teacher Training Programs  
and heads of educational organizations in the logic of "Data-Driven Pedagogy", "Data-Driven Education Management"

with the informational support of the RIA Novosti conference "Russia Today", the independent pedagogical publication "Uchitelskaya Gazeta",  
the scientific and journalistic journal "Educational Policy"

October 15, 2020

I International Conference "Big Data in Education: Data Analysis as a Basis for Making Management Decisions"

The place of the conference - 15.10.20. at 10 am - RANEPА

**The purpose of the conference is to disclose problems, analyze trends, methodology and technologies for analyzing educational data for the sound development of education, education management based on data, evidence-based educational policy.**

**At the conference, the winners of the All-Russian competition of cases for the analysis of educational data will be awarded.**

The working languages of the conference are Russian, English.

Conference website: <https://iim.ranepa.ru/about/events/bolshie-dannye-v-obrazovanii-analiz-dannykh-kak-osnovanie-prinyatiya-upravlencheskikh-resheniy/>



**Directions of the conference:**

- 1) Professional competencies of educational leaders and teachers in the field of data analysis on education and human development: programs for the professional development of data analysis competencies
- 2) National Data Management System and Evidence-Based Education Policy
- 3) Artificial Intelligence and Big Data: Knowledge Representation and Expert Systems 5: 0 - Applied Solutions for Education
- 4) International analysis of the approaches of the countries of the world to the design of digital services and technologies for the analysis of educational data
- 5) Administrative and pedagogical practices of educational data analysis for making managerial and organizational-pedagogical decisions
- 6) Analysis of big data in education based on the integration of electronic services and information systems: interoperability of systems and data portability

**Conference participants:** heads of educational authorities, heads of educational, scientific, methodological organizations, representatives of regional centers for assessing the quality of education, regional educational development institutions, methodologists, teachers, researchers, representatives of expert and public organizations.

**Objectives of the conference:**

- 1) Creation of a community of professionals developing the practice of analyzing educational data, evidence-based management of education development, evidence-based educational policy.
- 2) Analysis of educational data in the structure of the National Data Management System. Integration of educational data analysis methodology into the National Data Management System (NDSM).
- 2) International analysis of the approaches of the countries of the world to the design of digital services and technologies for the analysis of educational data, the development of international cooperation in the field of Data Driven Pedagogy.
- 3) Initiation of projects of scientific and industrial cooperation in the use of artificial intelligence technologies and big data in expert systems and applied solutions for the education sector.
- 4) Analysis and identification of the best managerial and pedagogical practices for analyzing educational data for making managerial and organizational pedagogical decisions. Integration on a permanent basis into the professional community of the All-Russian Case Competition "Data-Based Pedagogy".
- 5) Rethinking approaches to education management and educational policy as practices of evidence-based education development and evidence-based educational policy.
- 6) Integration of data analysis competencies into professional and educational standards. Initiation of new programs for the professional development of data analysis competencies for teachers and educational leaders.
- 7) Discussion of the problem of big data analysis in education based on the integration of electronic services and information systems: systems interoperability and data portability. Initiation of project proposals for the modernization of monitoring of the education system, technologies for collecting, analyzing data for the formation of management decisions.

### **Section leaders / speakers' publications:**

Semenov A.L. <https://iim.ranepa.ru/about/events/speakers/aleksey-lyovich-semyenov/>  
A.G. Asmolov <https://iim.ranepa.ru/about/events/speakers/asmolov-aleksandr-grigorevich/>  
Fiofanova O.A. <https://iim.ranepa.ru/about/events/speakers/olga-aleksandrovna-fiofanova/>  
Ilyukhin B.V. <https://iim.ranepa.ru/about/events/speakers/ilyukhin-boris-valentinovich/>  
Alieva E.F. <https://iim.ranepa.ru/about/events/speakers/evelina-fakirovna-alieva/>  
R.V. Ershova <https://iim.ranepa.ru/about/events/speakers/ershova-regina-vyacheslavovna/>  
Taradina L.D. <https://iim.ranepa.ru/about/events/speakers/taradina-larisa-dmitrievna/>

### **Conference interview:**

Semenov A.L. <https://iim.ranepa.ru/about/news/aleksey-semenov-upravlenie-obrazovaniem-postroennoe-na-dannykh-pozvolyaet-pereyti-k-modeli-rezultati/>  
Fiofanova O.A. <https://iim.ranepa.ru/about/news/konferentsiya-po-bolshim-dannym-v-obrazovanii-zachem-direktoru-shkoly-razbiratsya-v-tsifre-/>

### **10.00h. - Plenary session**

Greetings from the rector of the Presidential Academy V.A. Mau - "Big Data, Evidence-Based Education Development and public policy "

Welcoming speech of the Deputy Minister of Science and Education D.V. Afanasyeva

Welcoming speech of the Deputy Minister of Education V.S. Basyuka

Welcoming speech of the Deputy Head of the Directorate of the Russian Academy of Sciences for Interaction with the Scientific and Educational Community A.M. Solomatina

Greetings from the Vice-Rector of the Presidential Academy, Director of the Institute of Sectoral Management I.V. Fedotova "Implementation of the training program for leaders in the digital transformation of education"

Welcome speech by the coordinator of the Digital Transformation of School Program implemented with the support of the Russian Foundation for Basic Research, Academician of the Russian Academy of Sciences, Academician of the Russian Academy of Education A.L. Semenova

Greetings from the head of the RFBR project, scientific director of the Center for Management in Education O.A. Fiofanova - "Developing a culture of educational data analysis: concepts and practices"

## **11.00 - 12.30h - Section work**

### **Section 1. Professional competencies of education leaders and teachers in the field of data analysis on education and human development: programs for professional development of data analysis competencies**

Section co-leaders:

- Ph.D., scientific director of the Center for Management in Education, IOM RANEPa under the President of the Russian Federation Fiofanova O.A.
- Head of the Human Resources Development Department of the Department of Education and Science of the city of Moscow Novokreshchenov I.V.

#### **Reports:**

- 2.1. Fiofanova O.A. (Russian Academy of Education, Institute of Sectoral Management, RANEPa under the President of the Russian Federation): Competences for the analysis of educational data in professional and educational standards
- 2.2. Novokreshchenov I.V. (Department of Education and Science of the City of Moscow) Programs for the development of human resources to improve the digital competencies of teachers
- 2.3. Deryabin A.A., Popov A.A. (Federal Institute for the Development of Education, RANEPa under the President of the Russian Federation) Data literacy as a new digital competence
- 2.4. A. Komissarov (Directorate for R&D of the NTI University 20.35) Development based on data: training in a rapidly changing technology
- 2.5. Avalueva N.B., Alekseeva A.S. (Federal Institute for the Development of Education, RANEPa under the President of the Russian Federation) Competence of personal growth of teachers of the general education system in the context of digitalization of the educational space
- 2.6. Sadovenko A.S. (cadet of the Center for Training Leaders of Digital Transformation of the RANEPa) Concept "Digital Expert in Education" within the framework of the program "Digital Transformation of Public Administration in Education"

2.7. Heather Lapper (MYP Manager at IB AEM Africa-Europe-Middle East) International Baccalaureate Educator Competencies in Educational Data Analytics

2.8. Ilaltdinova E.Yu., Kisova V.V. (Nizhny Novgorod State Pedagogical University named after Kozma Minin) Pedagogical giftedness: analysis of pilot research data

2.9. A.A. Kusainova (Omsk State Pedagogical University) Training of specialists in data processing using the WEATHER APP database management system

2.10. Shmuratko D.V. (Perm State Humanitarian Pedagogical University) Content analysis of strategic development programs of pedagogical universities

## **Section 2. National Data Management System and Evidence-Based Education Policy**

Section co-leaders:

- Doctor of Psychology, Academician of the Russian Academy of Education, Director of the School of Anthropology of the Future RANEPa under the President of the Russian Federation, editor-in-chief of the journal "Educational Policy" A.G. Asmolov.

- Head of the Department of Projects in the Field of Education and the Social Sphere, Head of the Social Navigator Project of NIA Novosti Rossiya Segodnya Tyurina NV

### **Reports:**

2.1. A.G. Asmolov (RANEPa under the President of the Russian Federation): Anthropology of the Future and Strategic Development of Education - "ad hoc" data

2.2. Fost I.D. (Analytical center under the Government of the Russian Federation) National data management system: improving the quality and coherence of data contained in state information resources

2.3. Metelkin D.A. (Ministry of Education of the Russian Federation) Analysis of educational data in the structure of the National Data Management System

2.4. Zair-Bek S.I., Mertsalova T.A. (Institute of Education, National Research University Higher School of Economics) Monitoring in education as an element of the management system

2.5. A.G. Baghdasaryan (Center for Assessment and Testing under the Government of the Republic of Armenia) Big Data in Education Based on National Multidimensional Research

2.6. Deryabin A.A. , Popov A.A. (Federal Institute for the Development of Education, RANEPa) Political Economy of Big Data in Education

2.7. I. V. Karakchieva (Analytical Center for the Government of the Russian Federation) Development of education in the context of the implementation of national projects: data analysis

2.8. P. Bakunin (Development Directorate of the New Disk Group of Companies) Regional integrated solutions in the field of education: working with data

2.9. Petrakov A.Yu. (Russian Union of Young Scientists) Analysis of data on legal competence and legal knowledge among schoolchildren based on digital resources of the International and All-Russian Olympiads for schoolchildren: national programs for the development of legal literacy

### **Section 3. Artificial Intelligence and Big Data: Knowledge Representation and Expert Systems 5: 0 - Applied Solutions for Education**

Section co-leaders:

- Doctor of Physics and Mathematics, Academician of the Russian Academy of Sciences, Academician of the Russian Academy of Sciences, Director of the Institute of Cybernetics and Educational Informatics of the Russian Academy of Sciences A.L.

- Director of the Center for Educational Development of JSC "Russian Venture Company" Kovalev V.O.

#### **Reports:**

4.1. Semenov A.L. (Russian Academy of Sciences): Artificial Intelligence in Educational Data Analysis

4.2. Deryabin A.A. , Popov A.A. (Federal Institute of Education RANEPa under the President of the Russian Federation) Approaches and technologies of artificial intelligence in education

4.3. Kovalev V.O. (Center for educational development of JSC "Russian Venture Company") Examples of the use of data and results of an independent assessment of the quality of education

4.4. A. V. Dozhdikov (Federal Institute for Education Development RANEPa under the President of the Russian Federation) Desubjectivization of expert opinion in decision support systems based on big data in education

4.5. Dolmatov A.V. (Russian State Pedagogical University named after A.I. Herzen), Dolmatova L.A. (St. Petersburg Law Academy) Prospects for the use of artificial intelligence in the training of lawyers and legal activity

4.6. Mosalov O.P. (Laboratory of Intelligent Control Systems of the Technological University of the Moscow Region) Determining the relevance of publications using machine learning methods

4.7. V.V. Kondratyev (Institute of Education, National Research University Higher School of Economics) Using Big Data to Improve Mathematical Education

4.8. Dianov S.V. (Vologda Scientific Center of the Russian Academy of Sciences) Multi-agent technology for analyzing the Internet environment in the process of forming the professional identity of students in the region

#### **Section 4. International analysis of approaches of the countries of the world to the design of digital services and technologies for the analysis of educational data**

Section co-leaders:

- Doctor of Psychology, Head of the Department of Psychology of the State Social and Humanitarian University Ershova R. Yu.
- Director for the Development of International Education and Cooperation of the RANEPA under the President of the Russian Federation L.D. Taradina

#### **Reports:**

5.1. Ershova R. Yu. (State Social and Humanitarian University) Psychological aspects of digitalization of education: international experience

5.2. Taradina L.D., Averina S. Yu. (Russian Academy of National Economy and Public Administration under the President of the Russian Federation) Digital services as a tool for the development and evaluation of international educational projects

5.3. Toporkova E.S. (Institute of Education Development Strategy of the Russian Academy of Education) Structural and functional analysis of digital services and educational databases in the countries of the world

5.4. Parkhomenko D.A. (Belarusian State University of Informatics and Radioelectronics) Experience of Belarus in organizing training for specialists in processing and analyzing big data

5.5. Makazhanova Zh.M. (Higher College named after Magzhan Zhumabaev, Republic of Kazakhstan) Distance learning in a multicultural educational environment of higher college of the Republic of Kazakhstan

5.6. V.K. Zagvozdkin (Federal Institute for Education Development RANEPА under the President of the Russian Federation) Analysis of digital transformation of schools in Singapore: projects and results

5.7. Didier Courbet (Aix-Marseille Universite, France): Data Analysis Technologies in the French Education System

5.8. Zsolt Demetrovich (Eötvös Loránd University, Hungary) Digital tools for the analysis of educational data

## **Section No. 5. Managerial and pedagogical practices of educational data analysis for making managerial and organizational pedagogical decisions**

Section co-leaders:

Ph.D., Deputy Director of the Federal Institute for the Development of Education, RANEPА, Director of the Center for Management in Education, IOM, RANEPА Alieva E.F.

Candidate of Pedagogy, Director of School No. 1561 of the city of Moscow Pazinin V.V.

### **Reports:**

6.1. Alieva E.F., Alekseeva A.S., Avalueva N.B. Activities of regional educational development institutions based on the analysis of educational data

6.2. V. V. Pazynin (Director of School No. 1561, Moscow) Using data to analyze management strategies of Moscow schools

6.3. Malinnikova T.N. (Director of Lyceum No. 4 in Dmitrov, Moscow Region): Subject, methodological and digital competencies of teachers in the design of individual educational routes for schoolchildren in a digital educational environment (experience of the Moscow region)

6.4. Rezapkina G.V., Asmolova L.M. (FIRO RANEPА) Digital tools for assessing teacher competencies in data analysis

6.5. Smirnova E.E. (Financial University under the Government of the Russian Federation) The use of big data in the study of tax administration

6.6. Pryadko A.V. (Education Center No. 32 named after General IV Boldin of the city of Tula) Analysis of the reflexive-evaluative component of the professional readiness of teachers for the digitalization of education



6.7. Netrebko K.A. (Department of development of the contractual management system for municipal procurement of the Administration of the city of Sochi) Procurement activities of educational organizations in the context of digital transformation

6.8. Zakharova V.A., Khudyakova M.A., Shabalina O.V., Zanina K.A., Selkina L.V., Volkova L.V. (Perm State Humanitarian Pedagogical University) Preparing teachers for the introduction of the Federal State Educational Standard of primary general education: risk assessment based on data analysis

6.9. Ermakov A.V., Skarzhinskaya E.N. (FNTS VNIIFK), Sarafanova E.V. (Competence Center for Human Resources for the Digital Economy UNTI 2035) Physical culture and sports education - pedagogy, based on big data

6.10. Kosykh N.A. (Artek-tour, Russian Academy of Education) Data analysis of digital portfolios of children applying for a voucher to the Artek ICC

## **Section 6. Analysis of Big Data in Education through the Integration of Electronic Services and Information Systems: Systems Interoperability and Data Portability**

Section co-leaders:

Candidate of Pedagogical Sciences, Director of the Research Center for Assessment Systems and Quality Management of Education at the FIRO RANEPa under the President of the Russian Federation B.V. Ilyukhin

Ph.D. Deputy Director of the Institute of Mathematics and Informatics of the Moscow State Pedagogical University Kovalev E.E.

### **Reports:**

7.1. Ilyukhin B.V. (Federal Institute for the Development of Education, RANEPa under the President of the Russian Federation) Aggregation of data from various information systems as a resource for increasing information support of the education quality assessment system

7.2. Kovalev E.E. (Institute of Mathematics and Informatics, Moscow State Pedagogical University) Model and tools for modernizing federal and regional digital services for statistics and data analytics in education

7.3. Ershova I.I., Laptev V.A., Petrakov A.Yu. (Moscow State Law Academy named after O.E. Kutafin) Digital services for data analysis of the scientific activity of the department: methodology of analytics and interpretation)

7.4. Barannikov K.A., Kupriyanov R. (Moscow City Pedagogical University) Analysis of regional digital services of open data in Russia: data analytics as a basis for making management decisions in education

7.5. Seliverstova I.V., Livenets M.A. (Federal Institute for the Development of Education, RANEPa) Monitoring in education yesterday, today, tomorrow

7.6. Sverdlov M.B. (Skyeng Content Directorate) Student Progress Management Based on Monitoring Data of English Learning

7.7. Guslyakova V.I., Ilyukhin B.V., Serbina N.P. (Center for Monitoring and Evaluation of the Quality of Education of the Tomsk Regional Institute for Advanced Training and Retraining of Educators) Assessment of the contribution of educational organizations to the quality of education in the Tomsk Region based on data aggregated from various information systems

*13.00 – 13.30ч.*

**Presentation of the program of additional professional education IOM RANEPA**

**"Data Driven Education Management"**

**<https://iim.ranepa.ru/postgraduate-education/upravlenie-obrazovaniem-na-osnovanii-dannykh/>**

*13.30 – 14.00ч.*

**Awarding the winners of the All-Russian educational data analytics case study**

**Data-Driven Pedagogy.**

*14.00 - 15.00*

*Summing up the conference results*

*Adoption of the conference resolution*