Never Stop Learning

Adult Education in Russia

Russian Education: Achievements, Challenges and Prospects

Editors
Ilya Korshunov
Isak Froumin

HSE UNIVERSITY

ADULT EDUCATION IN RUSSIA: NEVER STOP LEARNING

HSE UNIVERSITY
Institute of Education

RUSSIAN EDUCATION: ACHIEVEMENTS, CHALLENGES AND PROSPECTS

COLLECTIVE MONOGRAPH SERIES

Established in 2018

Series Editors:
Yaroslav Kuzminov and Isak Froumin

Higher School of Economics
Publishing House
Moscow, 2022

HSE UNIVERSITY
Institute of Education

Ilya Korshunov, Olga Gaponova, Vera Peshkova

ADULT EDUCATION IN RUSSIA:

NEVER STOP LEARNING

Edited by Ilya Korshunov and Isak Froumin

Translated from Russian by Igor Manokhin

Higher School of Economics
Publishing House
Moscow, 2022

UDC 378.046.4
LBC 74.3
A20

Series Editors:

Yaroslav Kuzminov, Academic Supervisor, HSE University
Isak Froumin, Chief Research Fellow, Institute of Education, HSE University

Team of Contributors:

I. Korshunov (Introduction, Sec. 1.1–1.4, 3.1–3.4, 3.5.2, 3.7, 4.1, 4.2, 4.3, Ch. 2, Ch. 5, Conclusion); *O. Gaponova* (Sec. 1.2, 3.6, 4.1); *V. Peshkova* (Sec. 3.5.1, 3.5.3)

Edited by *Ilya Korshunov* and *Isak Froumin*

Reviewers:

L.N. Dukhanina, Deputy Chairlady of the Committee for Education and Science at the State Duma of the Russian Federation, Chairlady of the Russian Society "Knowledge", Doctor of Pedagogy, Professor

G.A. Klyucharev, Head of the Centre for Sociology of Education, Science and Culture at the Federal Research Sociological Centre of the Russian Academy of Sciences, Doctor of Philosophy, Professor

P.V. Travkin, Research Fellow at the HSE Laboratory for Labor Market Studies, HSE University, Candidate of Sciences in Economics

Translated from Russian by *Igor Manokhin*

Published by HSE Publishing House
https://id.hse.ru/

doi:10.17323/978-5-7598-2442-8

ISBN 978-5-7598-2442-8

CONTENTS

SERIES EDITORS' PREFACE

We are pleased to offer readers this unique series of books, which combines analytical work across all levels of education with discussions of potential strategies for future development. These books reflect over two years of work by scholars from the Higher School of Economics (HSE) as well as the Center for Strategic Research (CSR).

In 2016, when the President of Russia tasked the CSR with drafting recommendations for accelerating the growth of living standards for Russian citizens, it became clear that human capital must be the core of any strategy for boosting economic growth. As the sphere in which this capital is formed, education becomes supremely important. A key question emerges here, posing a serious challenge to education researchers: "How can we take education from being just a government obligation to fueling the social and economic development of the country?" For Russia, with one of the world's best education systems, this question is especially relevant today.

In making such demands on education, a theoretical framework is not enough. We must also carefully study the applied field of education, its achievements and shortcomings. No strategy can exist without a vision for the future and a vision of education's role in the fabric of social development. Nor can there be a strategy without data, without an empirical view of education. That is why the HSE-CSR working group discussed not only principles, approaches, and best practices from around the world, but also organized numerous studies of education systems and conducted hundreds of discussions and interviews with practitioners and experts in the field. The series of books that resulted from this work begins with a volume that offers a new approach to human capital and a new role for education. It also discusses the fundamental mechanisms of education's development. The volumes that follow are geared towards analysis

and reporting, breaking down the field of education into segments: preschool, primary and secondary, vocational, higher education, as well as children's after-school programs and continuing education. A special report is devoted to our analysis of the digital transformation of education, since we see this process as playing a key role in a fast-approaching civilizational shift.

We see each of the books in the series as being valuable in itself, and as being useful and interesting not only to education professionals but also to other interested readers. The books will be valuable to all those who don't want to limit themselves to their personal experience of education, but choose to go deeper into empirical data and theoretical arguments. These arguments and data come from researchers' work with publicly available resources, as well as from our own empirical studies. These studies include: Monitoring of Education Markets and Organizations (MEMO), the Longitudinal Panel Study of Educational and Occupational Trajectories, Household Socioeconomic Behavior Monitoring, and numerous other sociological, economic, pedagogical, and psychological studies.

However, we must acknowledge that the data presented and analyzed in this series contains a variety of flaws that certainly must be addressed in future work. First and foremost, most of our data points are averages and generalizations from the country as a whole, while regional differences are significant. A close study of differences among regions, as well as smaller areas, is needed to analyze data and study the interplay of economies and institutions more precisely in terms of regional typology. We were able to do this in numerous instances, but not nearly everywhere. The reason is simply a lack of available data that can be broken down regionally. The second flaw is a lack of data on the quality of education. The need here is even more urgent: such data is simply nonexistent for all levels of education except primary and secondary. We lack objective assessment tools, and the data we have from primary and secondary school assessment is closed off to study at the needed level of depth.

An important feature of this series is its immersion in the global context, driven by the task of making Russian education globally competitive. The reader will find here not only comparative statistics, but also analysis of global best practices in education development at all levels.

We are truly thankful for the work done by Alexei Kudrin, who led the drafting of recommendations for Russia-2024: The Strategy of Social and Economic Development; by Andrei Fursenko, assistant to the President of the Russian Federation; by all our partners in the federal and regional governments; and by all the various scholars and experts who worked with us. Thanks to all of them for the support, discussions, and suggestions.

In this book, we will acquaint you with the system of adult education. You will find not only the history of formation and current data on the state of this educational level in the Russian Federation and in the world. We also offer you specific measures that allow giving impetus to the social and economic development of territories and improve their investment climate due to adult education.

Yaroslav Kuzminov
Isak Froumin

EDITORS' PREFACE

This book was written in order to let the knowledge, professionalism, ingenuity and entrepreneurial spirit of Russian citizens become real key elements of our country's national idea. It is obvious that the efficient development of these qualities is possible through the creation and development of a system of education and training for adults, who, in contrast to children and adolescents, can combine the acquisition of new professional and socio-emotional skills with positive economic, professional and personal results from their daily use.

Nowadays, almost any problem, which arises in work and everyday life of a person, can be solved with the help of learning and purposeful acquisition of new knowledge. Sociological surveys of various groups of the population show that conscious teaching of new skills is the basis for self-realization, personal growth, and physical health.[1] The modern digital age provides adults with unprecedented freedom to learn and be confident in the future, and, as a result, to improve both the well-being of individuals and the economic development of the territories.

This book became part of the work on the Development Strategy of the Russian Federation for 2018–2024 and for the Future to 2035. While preparing it, the experts used the collections of models of national adult education systems of the UNESCO Institute for Continuing Learning[2], as well as abundant statistical data of the European Union and the Program for the International Assessment of Adult Competences (PIAAC)[3]

---

[1] *Manninen J., Meriläinen M.* Benefits of continuing learning: BeLL survey results. Work Package Report, Project BeLL — Benefits for Continuing Learning. 2014. <https://www.bell-project.eu/cms/wp-content/uploads/2014/06/BeLLSurvey-results. pdf>.

[2] UNESCO Institute for Continuing Learning. <http://uil.unesco.org>.

[3] Program for the International Assessment of Adult Competences. <http://www.oecd.org/skills/piaac/>.

in the Organization for Economic Development and Cooperation. They also used public statistical data of the Russian Federation and Monitoring of the Economics of Education, performed by the National Research University Higher School of Economics over the last ten years.

We hope that this book will help the heads of educational organizations expanding the markets of educational services to offer the types and forms of education that will be in demand and interesting to the population of the country. Heads of executive authorities will be able to keenly implement measures aimed at involving adults in skill enhancement and further training, bearing in mind the positive political results for organizers of mass and adult education, confirmed by the experience of developed countries.

We are grateful to everyone who took part in an intense debate on the main trends in adult education and complex solutions that can ensure its successful transformation. We express deep gratitude to V.E. Gimpelson, L.N. Dukhanina, F.F. Dudyrev, G.A. Klyucharev, T.V. Klyachko, Ya.I. Kuzminov, A.E. Levintov, A.N. Leibovich, E.V. Mitrokhina, A.S. Perevertailo, O.A. Podolsky, I.M. Remorenko, S.V. Roshchin, P.S. Sorokin, P.V. Travkin, R.N. Urazov, A.T. Shershnev, and N.B. Shugal.

Ilya Korshunov
Isak Froumin

INTRODUCTION

The world around us is rapidly changing, and we would love to feel independent and free in these headwinds. However, such confidence is possible only thanks to an inner intellectual resource, which is acquired due to constant learning, purposeful self-improvement, and improvement of our skills throughout our life.

Rapid development of a high-tech knowledge-based economy has constituted a ground for a deep scientific study of the factors that have a direct influence on human capital development. The acquisition of new skills, which has become an integral part of a person's entire life, is one of these factors. This approach is reflected in the concept of continuing education, which spread throughout the world at the end of the 60s of the last century, in the aftermath of acceleration of industrial development and renewal of industrial technologies.

The degree of involvement of the country's grown-up population in adult education is considered one of the indicators of human capital development. This forces us to pay special attention to the fact that the coverage of the population by all forms of formal and continuing learning and development in the Russian Federation has just slightly increased over the past ten years. It amounted to only 17%[1] in 2016, which is 2.5 times lower than in countries of the Organization for Economic Cooperation and Development (OECD) (51%),[2] and 2 times

---

[1] Okhvat vzroslogo naseleniya nepreryvnym obrazovaniem // Monitoring ekonomiki obrazovaniya. HSE Univ., 2016. <http: www.memo.hse.ru/ind>.

[2] *Desjardins R.* Participation in adult education opportunities: Evidence from PIAAC and policy trends in selected countries. Background paper prepared for the Education for All Global Monitoring Report 2015. Education for All 2000–2015: achievements and challenges. <http://unesdoc.unesco.org/images/0023/002323/232396e.pdf>.

lower than the average European level (40.2%).[3] The very involvement in adult education is the only indicator of education development in which Russia significantly lags behind competing countries.

In the meantime, the development of adult education makes it possible to solve a wide range of social and economic problems. The use of new technologies, an increase in labor productivity, and the person's ability to combine the desire for social realization and successful work are the most important of them.

The weakness of the system of continuous adjustment of the working population competences to the efficient use of new technologies almost excludes the widespread launch of new innovative projects, and possibly even entire high-tech industries.

The history of the formation of shipbuilding in Russia is familiar to many people. It is almost entirely based on the additional training of Peter I and his associates in Holland and England. Within the framework of the so-called "Grand Embassy," Peter devoted a lot of time to the purposeful capture of shipbuilding, military affairs, and other sciences. He worked as a ship carpenter at the shipyards of the East India Company, and as a result, the first Russian frigate "Peter and Paul" was built with his direct participation. In Amsterdam, Peter himself received a corresponding certificate of learning outcomes from the leading shipmaster of the East India Company.[4]

Updating technologies and increasing labor productivity are not the only problems that adult education solves. It helps to get out of the trap of low-skilled labor and lack of career growth.

The role of adult education is also increasing in the context of labor market transformations, when familiar industries and professions are disappearing, and it is urgent to retrain large groups of the

---

[3] Eurostat. <http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Participation_rate_in_education_and_training,_2011_(%C2%B9)_(%25)_YB16.png>.

[4] *Karpov G.M.* Grand Embassy and the first trip abroad of Peter I. Kaliningrad, 1997.

population with focus on rapidly growing segments of the economy, which use new technologies.

Anticipated reduction in labor force, caused by general trend of population aging, also requires the implementation of measures to involve persons of pre-retirement age in programs for development and renewal of professional competences. Besides, the expected increase in migration from the CIS countries and an increase in unemployment (especially among young people who drop out of social processes) form an additional demand for adult education. Against this background, the involvement of people who are still weakly involved in the economy in the process of mastering demanded skills will make it possible to reduce the tax burden on the working population.

Shortage of new everyday knowledge (in financial, legal, digital, medical, environmental, and cultural and aesthetic spheres) and socialization skills (communication, cooperation, critical thinking, and creativity) is one of the factors of social discomfort and tension in society in the context of rapid civilizational changes. This shortage arises from the fact that programs for the rapid capture of new types of literacy are not available for the adult population in a sufficient scale. Mastery of them, including basic forms (reading and understanding, mathematical logic, and the ability to complete tasks in a technologically rich environment), is not taken into account by employers during the initial admission to the job. Along with that, ISO quality management systems and all modern production systems at the enterprises assume that the staff has mastered the full range of these skills. It becomes clear that their actual absence among the working population greatly complicates the implementation of vocational qualifications, reduces production process efficiency and overall labor productivity and profitability, and worsens product quality. Launching a system of training and objective certification of everyday types of literacy with the involvement of employers will help avoid this hazard.

Speaking about the demand for adult education in the business sector, it is worth noting that the index of entrepreneurial activity of Russians in 2014 was 20% lower than in the BRICS countries, and almost 2 times lower than in the OECD countries. The lag behind the leading BRICS and OECD countries in terms of entrepreneurial activity was more than 4 times. In the meantime, higher education institutions and professional educational organizations still play an insufficient role in fostering entrepreneurial initiatives and consulting young entrepreneurs at the initial stages of business development.[5]

Self-education and collaborative learning are a significant part of the adult education system in developed countries, and they allow citizens to feel self-efficacy and freedom of choice in obtaining the necessary knowledge to tackle both current and professional tasks. At the same time, the modern Russian population has almost no skill of self-sustained acquisition of qualifications through purposeful self-education.[6] As a result, even the availability of (for example) a wide range of online educational resources does not guarantee that the population will acquire the competences necessary for positive professional and career changes.

In order to offer efficient instruments for using this segment of education for economic growth and social stability of the country, this publication analyzes the current state, dynamics, and core institutions of adult education in the Russian Federation.

The first chapter is devoted to the consideration of the conceptual foundations, types, and main functions of the system of adult

---

[5] *Dukhon A.B., Zinkovsky K.V., Obraztsova O.I., Chepurenko A.Yu*. Vliyanie programm predprinimatelskogo obrazovaniya na razvitie malogo biznesa v Rossii // Voprosy obrazovaniya. 2018. No. 2. P. 139–172.

[6] In Russia, an average of 20–25% of the population aged 25–64 is engaged in self-education, while this figure is more than 70% in Norway, Austria, and Sweden. See *Bondarenko N.V*. Stanovlenie v Rossii nepreryvnogo obrazovaniya: analiz na osnove rezultatov obshcherossiyskikh oprosov vzroslogo naseleniya strany. <https://iz.ru/news/719297>.

education in the context of historical development and modern views on this type of education. We will see how its main components emerged, how they were institutionalized and consolidated in everyday life, overcoming the most revolutionary transformations of Russian society.

The second chapter represents an overview of the best international practices and experience in forming adult education around the world. A systematic set of examples of international experience will help ensure the choice of a competitive model when organizing this system in the region and the country as a whole.

The third chapter describes the challenging path of transformation of adult education system in the country and its current state. It analyzes the core regional indicators of adult education, best implementation practices, and providers of additional training programs, among other things within the framework of digital technologies.

The fourth chapter reviews the main mechanisms that ensure the contribution of professional development and training of adults to economic growth, an increase in economic well-being and social sustainability of regions and the country as a whole. It provides recommendations on the use of educational programs to form daily literacy and skills of the 21st century that improve comfort and quality of life, in particular for senior citizens.

The fifth chapter answers the question of how to stimulate adult learning and education. It is dedicated to the development of a set of key measures aimed at creating a system of competitive adult education. The measures under consideration touch investment and business processes and have an impact on the investment climate of the territories. They imply the development of the professional career of citizens, support for entrepreneurial activity, taking into account the skills acquired in the process of labor activity, self-education, and collaborative learning in the structure of education at a university or college.

Chapter 1

Why Should Adults Learn? Composition and Functions of Continuing Education

1.1. What Adult Education Means and How It Is Understood Nowadays

The philosophical meaning of adult education lies in the objective variability of a person's life and his need to adapt to the ongoing changes. "You live and learn," said Seneca, a Roman politician and philosopher. The emergence of modern concepts of adult education is associated with the intensive development of industry and new technologies, as well as with an increase in average life expectancy in developed European countries and the USA at the beginning of the 20th century.[1] During this period, adult education started being considered a means of social change and transforma-

[1] The Department for Continuing Education at the University of Oxford originated in the 70s of the 19th century when a movement called the "Expansion of Oxford" began at the university. Department for Continuing Education, University of Oxford. <https://www.conted.ox.ac.uk/about /our-history>.

tion.[2] In 1900, Dewey argued[3] that adult education was "both a right and a public good to which everyone should have access, but everyone has an equal obligation to participate in it — in the interest of forming and maintaining democracy". He also showed that adult education was not only the educational activity of different organizations, but also the initiatives of independent citizens.

Edward Lindeman first proposed the ideas "education is life" and "all life is learning, so education cannot have endpoints" in his work "The Meaning of Adult Education," published in the USA in 1926.[4]

The idea of adult education, which had a practical impact, was fully outlined in the work "Continuing Education" by Basil Yeaxlee in 1929.[5] He highlighted the main features of continuing education. First, adult education is thought of as a superstructure that influences the entire existing education system, including schools and higher education institutions. Second, it goes beyond formal education, embracing various organizations and population groups. Third, it is based on the understanding that people are capable of self-organization and realize the value of continuing self-education. "Life, in order to be joyful, full, and creative, requires constant reflection of one's own experience, so that actions are dictated by wisdom, and work is a form of self-expression," concludes Yeaxlee.

---

[2] *Baumgartner L.M.* An update on transformational learning // S.B. Merriam (ed.). The New Update on Adult Learning Theory. New Directions for Adult and Continuing Education. Hoboken: Jossey-Bass, 2001. P. 15–24.

[3] *Dewey J.* The School and Society. Chicago: University of Chicago Press, 1900. <https://ia801408.us.archive.org/33/items/schoolsociety00dewerich/schoolsociety00dewerich_bw.pdf>.

[4] *Lindeman E.C.* The Meaning of Adult Education. N.Y.: New Republic, 1926. Republ. 1989 by The Oklahoma Research Center for Continuing Professional and Higher Education. <http://www.infed.org/thinkers/et-lind.htm>; *Knowles M.S., Holton III E.E., Swanson R.A.* The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development. 6th ed. London, N.Y.: ELSEVIER Butterworth Heinemann, 2005.

[5] *Yeaxlee B.A.* Continuing Education. London: Cassell, 1929. Republ. 1988.

Thus, a scientific basis was formed at the beginning of the XX century to represent education as a continuous aspect of everyday life.[6]

The theorist of liberal arts education P. Lengrand[7] presented adult education as an independent concept at the UNESCO forum in 1965. With the rapid development of scientific and technological progress, it was exactly the adult learning that had to solve the problem of constant adjustment of personnel qualifications to technological renewal and the formation of a new production environment. It was assumed that people trained to use new equipment and technologies should generally achieve higher labor productivity and, accordingly, the growth of gross domestic product per capita. At the same time, it was only by the beginning of the 90s that the need to integrate various kinds of programs and types of educational activities into a single concept of lifelong learning for adults — *Life Long Learning*[8] *— was realized.*

A 1996 UNESCO report on learning and education[9] noted a shift from the term "continuing education"[10] to "continuing learning," which is more common nowadays. This change meant a transition from the dominance of traditional educational institutions, where a person undergoes training according to standard programs, to the sphere of new opportunities for independent learning activities

---

[6] Electronic methodological outlet "Kontsept". <https: // e-koncept. ru/2015/15306.htm>.

[7] *Lengrand P.* An Introduction to Continuing Education. Paris: UNESCO, 1970.

[8] *Pépin L.* The History of EU Cooperation in the Field of Education and Training: How continuing learning became a strategic objective // European Journal of Education. 2007. Vol. 42. No. 1. P. 121–132.

[9] *Delors J. et al*. Learning: The Treasure Within. Report to UNESCO of the International Commission on Education for the Twenty-First Century. Paris: UNESCO, 1996. Original edition: *Delors J. et al*. L'Éducation. Un trésor est caché dedans. Paris: Éditions UNESCO—Odile Jacob, 1996.

[10] *Faure E. et al*. Learning to Be: The world of education today and tomorrow. Paris: UNESCO, 1972. Original edition: *Faure E. et al*. Apprendre à être, Paris: UNESCO-Fayard, 1972. <http://unesdoc.unesco.org/images/0000/000018/001801e.pdf>.

focused on the process of mastering specific skills. At the same time, responsibility for providing opportunities for such learning activities has shifted from the state to non-governmental organizations and directly to the citizens, offering greater freedom to implement individual capabilities and abilities to learn.[11]

There has been a consensus about the following three frameworks to qualify adult education:[12]

— adult education as learning (education) across the lifespan

— adult education as education for grown-up people

— adult education as continuing professional training

The definition of continuing lifelong learning (LLL) was fixed by the European Statistical Office based on the documents of the European Employment Strategy (Luxembourg, 1997) and the message of the European Commission "Implementation of continuing learning into reality in the European space" in 2001.[13] According to these documents, **continuing learning refers to "all learning activities undertaken throughout a person's life with the aim of improving his knowledge, skills and competences in the framework of personal, civil, social and/or work employment."**

In this context, continuing learning concerns the entire population, regardless of age and status in the labor market. It includes all types of educational activities, from preschool education to leisure for retirees.

Activities classified as education should be:

— purposeful, that is, aimed at improving behavior, knowledge, relations, values, skills, understanding of information, etc.

---

[11] Global report on adult learning and education. UNESCO Institute for Continuing Learning, 2010.

[12] Monitoring nepreryvnogo obrazovaniya: instrument upravleniya i sotsiologicheskie aspekty / academic advisor A.E. Karpukhina. Seriya: Monitoring. Obrazovanie. Kadry. M., 2006.

[13] Classification of learning activities (CLA). Eurostat Manual. EU Publications Office. Luxembourg, 2016. <http://ec.europa.eu/eurostat/documents/3859598/7659750/KS-GQ-15-011-EN-N.pdf>.

— organized, that is, they should have duration and consistency and not be random. They may include various types of training, for example, obtaining a new level of education, apprenticeship, on-the-job training, self-education, etc.

— independent of the source of funding and the method of obtaining (in the classroom or remotely).

The current approach to adult education is thus based on the learning process itself and is not limited to achievable levels of education, as is done in the framework of the approach of the International Standard Classification of Education System (ISCED).

Since the educational route from preschool and general secondary to vocational and higher education is considered standard at the established age periods of a person, **adult education**, which includes the population aged 18 to 70 and older, becomes the key element of continuing education.

English-language literature often defines continuing education as Adult Learning and Education (ALE), meaning various forms of education and training (related and not related to work), as well as mastering the basic educational levels that were not obtained by adults in the framework of traditional educational trajectories.[14] Particular attention is paid to the elderly and young people who are disadvantaged (for example, disabled people or those who have lost their jobs). Existing statistical observations of continuing education (both in the EU and OECD and in the Russian Federation) regard it exclusively as adult education.

In the 1990s, especially in Europe, there emerged another dominant interpretation of continuing learning. It was associated with further training and the acquisition of new **job skills** that would enable people to cope with the demands of rapidly changing industries

[14] 3rd Global report on adult learning and education. The Impact of Adult Learning and Education on Health and Well-Being, Employment and the Labor Market, Social, Civic and Community Life. UNESCO Institute for Continuing Learning, 2016.

and technologies.[15] Notably, the system of vocational education (Vocational Education and Training, VET) applies to the training of the adult population and retirees who are ready to receive and renew competences as part of their professional career development.

Interest in the possibility of using adult education for achieving economic growth and social sustainability has served as the basis for the active development of mechanisms for its implementation in many countries of the world.

The Cologne Charter, adopted at the G8 Summit in 1999, defined the main Aims and Ambitions of Continuing Education.[16] Six principles of continuing education, which became the basis for the formulation of national educational policy, were fixed in the Memorandum on Continuing Learning[17], adopted by the decision of the Lisbon Summit of the European Council in 2000. They include:

— an increase in human capital investment due to adding up the resources of the state, employers, and citizens themselves;

— a system for evaluating knowledge, skills, and abilities, which allows taking into account informal learning as part of the main levels of education;

— new basic knowledge for everyone (computer competence, foreign languages, technological culture, entrepreneurship and social skills);

— innovative teaching and learning methods (development of mentoring and consulting to build integrated routes of education and labor activity); and

---

[15] *Bagnall R.G.* Continuing learning: concepts and conceptions. International Journal of Continuing Education. London: Routledge, 2000. Vol. 19. No. 1. P. 20–35; *Griffin C.* From education policy to continuing learning strategies' // P. Jarvis (ed.). The Age of Learning. London: Kogan Page, 2001. P. 41–54.

[16] *Nesterov A.G.* Evropeyskie kontseptsii nepreryvnogo obrazovaniya v nachale XXI veka // Nauchnyi dialog. 2012. № 5.

[17] Memorandum nepreryvnogo obrazovaniya ES. Obshchestvo "Znanie" Rossii. 2001.

— bringing education closer to the consumer using network of training and consultation centers and information technologies.

State participation in the efficient organization and co-financing of the processes of constant renewal of the professional population competences has gradually been recognized as a key imperative of economic and educational policy. In this regard, there appeared many programs aimed at transferring, for example, relevant IT technologies and associated skills to the broad population.

Among such programs, one may mention eLearning[18] and eEurope initiative.[19] The program "Continuing Learning" (the successor to the programs "Socrates," "Leonardo da Vinci" and "IT — Open and Remote Learning in 2000–2006") also became an important mechanism for the development of adult education in the EU from 2007 to 2013. It included sectoral and so-called "transversal" programs for European skills support with a budget of 7 billion euros.[20]

There have been developed methods for studying the state of adult skills and their relationship with socioeconomic factors in order to evaluate the efficiency of the implementation of large international and country programs in the field of continuing education.

According to the BeLL study (Benefits of Continuing Learning), participation in non-formal education gives adults a feeling of greater satisfaction with their lives. The respondents noted changes in the level of tolerance, understanding, and respect, as well as a positive impact on the formation of values.[21] Monitoring of the involvement of the adult population in continuing education begins to be held regularly. One can single out the EU Labor Force Survey, the Adult Education Survey, and the Continuing

---

[18] Education, Culture and Audiovisual Executive Agency. <http://eacea.ec.europa.eu/static/en/elearning/index.htm>.

[19] <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3Al24221>.

[20] EACEA. <http://eacea.ec.europa.eu/llp/about_llp/about_llp_en.php>.

[21] *Manninen J., Meriläinen M.* Benefits of continuing learning: BeLL survey results // Work Package Report, Project BeLL — Benefits for Continuing Learning. 2014. <https://www.bell-project.eu/cms/wp-content/uploads/2014/06/BeLLSurvey-results.pdf>.

Vocational education and training Survey. The European Center for Research on Education and Continuing Learning (CRELL)[22], focused on the systematization of problems and the study of adult education, was founded in 2005. In 2006, the UNESCO Institute for Education, which had already specialized in adult learning, became the UNESCO Institute for Continuing Learning (UIL).[23]

Gradually, participation of the population in adult education began to be considered not only as an educational paradigm, but also as one of the indicators of the country's economic level. The Final Report of the Sixth UNESCO International Conference on Adult Education (2009) noted that an increase in the average duration of adult education by only one year leads to an increase in economic growth by 3.7% (in the long term), and by 6% in per capita income.[24] According to this concept, continuing acquirement of knowledge contributes to (among other matters) labor adaptation and personal self-realization of the adult population of the country. It also improves the quality of the human capital of the economy and socio-political stability.[25]

In 2016, the European Commission adopted the *New Skills Agenda for Europe*.[26] Its mission is to improve the quality of skills and their significance for the labor market. New Skills Agenda is centered on three main objectives.

---

[22] Centre for Research on Education and Continuing Learning. <https://crell.jrc.ec.europa.eu/>.

[23] UNESCO Institute for Continuing Learning // UNESCO Institute for Continuing Learning. <http://uil.unesco.org>.

[24] CONFINTEA VI Final Report. Hamburg: UNESCO Institute for Continuing Learning, 2010. P. 43 // UNESDOC Database. <http://unesdoc.unesco.org/images/0018/001877/187790e.pdf>.

[25] European Commission. Making a European area of continuing learning a reality. Communication from the Commission 678. Brussels, 2001. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52001DC0678:EN:NOT>.

[26] New Skills Agenda for Europe. <http://ec.europa.eu/social/main.jsp?catId=1223&langId=en>.

1. Improving the quality of skills of the adult population and ensuring their fuller compliance with the demands of not only the labor market, but also social and personal development.

2. Development of a system of assessment, acknowledgment, and comparability of skills and qualifications, including those acquired outside the established educational institutions. It helps people demonstrate and use their experience and talent better and identify their needs for further training. Beyond that, it creates opportunities for obtaining new qualifications, including those required for a successful change of career paths by the unemployed and migrants.

3. Revealing new in-demand skills and the creation of tools for reasonable selection of professions.

To achieve these three goals, it is planned to implement ten key groups of activities.

1. "Skills Guarantee". It provides for the implementation of a set of measures (in conjunction with national, regional, and local authorities) to ensure a minimum level of basic skills of the adult population, including the ability to count, literacy, and work with digital technologies. This minimum level of basic skills will ensure community involvement and create the conditions for the subsequent acquirement of qualifications, as well as secondary and higher education.

2. Renewal of the European Qualification Framework. It is intended to ensure that the qualifications obtained are in line with the demands of the labor market, which will increase the labor mobility of the population.

3. Coalition of Digital Skills and Workplaces. It unites parties concerned in education, employment, and industry to provide a higher level of IT skills to the workforce.

4. "Concept of Sectoral Collaboration on Skills." It aims at identifying and eliminating the lack of new professional competences in specific sectors of the economy.

5. "Skill-set for third-country nationals." It provides a set of measures for the early identification of existing skills and needs in the qualifications of refugees and migrants.

6. Revision of the structure of Europass (the document on qualifications obtained, drafted on a portfolio basis). It involves not only the presentation of information about the acquired skills of the holder, but also the identification of the need for learning.

7. Transformation of professional development into the system of the first contact of the trainee with the labor market as a result of the widespread dissemination of training in the workplace.

8. Renewal of recommendations to the population on the key competences necessary for life in a modern society of the 21st century. It is imperative to include critical thinking, problem solving, the ability to learn, foreign languages, entrepreneurship, and innovation.

9. Development of tools for tracking the paths of graduates. It should help to understand how people with different educational backgrounds make progress in the labor market.

10. Study and use of best practices in overcoming the problem of national and regional "brain drain".

In Manifesto for Adult Learning in the 21st Century, issued in December 2015, the European Association for the Education of Adults identified continuing learning as a key tool for achieving sustainable development and successfully tackling the current challenges that Europe faces, the migrant influx being one of the most serious of them.

Continuing learning and adult education were first included as goals in the 2030 Agenda for Sustainable Development ("Transforming Our World: The 2030 Agenda for Sustainable Development")[27]. The European Association for the Education of Adults has declared 2017 the Year of Adult Education in Europe under the slogan "The Power and Pleasure of Learning".[28]

The demand for these agendas confirms the growing interest of the population in updating qualifications and personal development

---

[27] EAEA policy paper. Learning and skills for adults in Europe. December 2016. <http://www.eaea.org/media/policy-advocacy/eaea-statements/learningand-skills-for-adults_final.pdf>.

[28] <http://www.eaea.org/en/policy-advocacy/eaea-statements.html>.

through training. Counting on the political results of such large-scale interest, governments are developing a variety of instruments for such support.

The National Skills Strategies Project is one of such standard projects proposed by the OECD for the implementation of continuing learning in state policy content.[29]

Skills stimulate economic growth and have an impact on the distribution of benefits among different population groups. It is difficult to implement productivity-enhancing technologies and new working practices in those areas where a significant proportion of adults have not succeeded in acquiring skills. This, in turn, inhibits innovations and lowers living standards. In all countries, adults with lower literacy rates are much more likely to report ill health, perceive themselves as objects rather than subjects of political processes, and trust others less. Relying on social support, such people underestimate their economic activity. The more employees systematically fall into this vicious circle, the more inefficient costs of society grow.

The OECD National Skills Strategy project aims at strengthening national systems for the sustainable use of skills and spreading the principle of "continuing employment" in society. Based on an analysis of the investment and industrial potential of specific countries, priority development sectors, dynamics of the GDP structure, and global trends in economic development, OECD experts, together with national specialists, identify the most demanded range of skills in the region, conditions and obstacles to their efficient use.

The project includes a diagnostic phase and a solution development phase to improve the use of skills. The key issues of the strategy under development include three main components:

1) development of necessary skills from childhood to adulthood;

2) fostering the supply of in-demand skills to the labor market; and

---

[29] <http://www.oecd.org/skills/nationalskillsstrategies/buildingefficientskillsstrategiesatnationalandlocallevels.htm>.

3) formation of conditions for the efficient use of skills in enterprises, sectors of the economy, and society as a whole.

Table 1.1 shows the content of the elements of the model strategy for the development of the skills system.

Table 1.1. The Structure of an Efficient Strategy for the Development of a National Skills System

Development of necessary skills	Conditions for efficient use of skills	Offering in-demand skills
Expanding access and improving the quality of education in early childhood	Financial mechanisms of the skills acquisition system	Providing women with opportunities to acquire skills and full participation in the labor market
Improving the quality and accessibility of basic school education	Improving structures for control of the skills provision system	Keeping the elderly and people with special medical conditions to work (disabled) in their workplaces
Acquisition of skills in demand in the labor market in the framework of upskilling	Development of a base for the formation of a methodology for acquiring skills in demand	Improving the skill levels of migrants and their children
Meeting the economic demand for high-level skills	Encouragement of employees to make better use of workers' skills	Creation of a skills system that supports the use and implementation of innovation
Expansion of adult education scales, especially for low-skilled	Providing professional orientation and navigation in the system of acquiring new skills	Open access to digital skills acquisition

In accordance with the OECD methodology, Austria, Italy, Korea, Spain, the Netherlands, Norway, Portugal, Slovenia, and other countries have worked out national skills development strategies. The strategies under development have allowed states to stimulate an increase in labor productivity in the private sector, where the transfer of skills is objectively complicated. The population boosted the political decisions made on their basis, and the concept of adult education has become part of the everyday life of a modern person.

1.2. Formation of Adult Education in Russia: From Overcoming Illiteracy and Political Propaganda to Economic Growth

In Russia, as well as abroad, education has gradually become an integral part of the activity of the entire Russian society. Certain elements of additional education are found at any of the stages of the historical development of our country — it logically arises and develops along with basic education.

1.2.1. Education of the Population in Pre-revolutionary Russia: From Preparatory Courses to Basic Education

Education in pre-Peter Russia had a religious nature and was carried out mainly within the framework of parish schools. At the end of the XIX century, peasant population education studied at best "for a sack of potatoes at the priest's for two winters."[30] For the majority of the faithful, the priest also acted as a representative of additional training that met the spiritual needs of the population, which went beyond the daily concerns and were not satisfied in

[30] This is how N.S. Khrushchev esteemed his education, studying at the All-Russian Industrial Academy at the Supreme Economic Council. Quoted after *Abrosimov I.* Kadrovaya politika vlasti v SSSR 1939–1953. <http://www.pseudology.org/state/KadrPolicy1939_1953/07.htm>.

practical life.[31] However, such an educational arrangement did not allow overcoming the massive illiteracy of the adult population, and even more so to create the basis for staffing industrial production in the country.

The development of meaningful additional training in pre-revolutionary Russia began with the emergence of a layer of the democratically spirited intelligentzia, who consider it their duty to take care of the people through cultural education. In the middle of the XIX century, the first Sunday schools were established in the country.[32] Their creation is primarily associated with the names of N.I. Pirogov and K.D. Ushinsky. In conditions when a large part of the population was illiterate, the purpose of such schools was to teach everyone interested to read and write.[33] Meanwhile, the Sunday schools also increased the general erudition of the population, developed the mental abilities of adult students, and developed a steady motivation and habit of constant self-education and proactive behavior.

It is interesting that the forms of education, initially considered as additional and optional, gradually became institutionalized. Moreover, they became an integral part of basic education. Since 1864, according to the Regulations on the elementary public schools, Sunday schools established by the government, individuals, or public organizations were already classified as basic elementary public schools. According to official statistics, there were 274 such schools in 1862, and another 147 schools were opened in the period from 1888 to 1899.[34]

---

[31] *Kapterev P.F.* Antologiya gumannoy pedagogiki. Kapterev. Moscow, 2001.

[32] *Pirogov N.I.* O voskresnykh shkolakh // Izbrannye pedagogicheskie sochineniya. M., 1952.

[33] *Nikitskaya E.A.* Voskresnye shkoly kak fenomen pedagogicheskoy realnosti. Istoriya i sovremennost // Vestnik OSTHU IV: Pedagogika. Psichologiya. 2008. No. 2 (9). P. 121–132.

[34] *Popinova M. V.* Razvitie voskresnykh shkol v Rossii kak formy obrazovaniya vzroslykh: seredina XIX — nachalo XX vekov: Avtoreferat… kandidata pedagogicheskikh nauk. Yaroslavl, 2001.

The population compensated for the lack of everyday and technical knowledge by attending Sunday evening courses for workers, artisans, and public servants, which opened in the cities and towns, as well as in large villages where industrial enterprises were located. The Russian Technical Society, which had been operating in Russia since 1866, gave the main send-off in the creation of such educational institutions. In 1885, the world's first institute to improve the education of doctors was opened in St. Petersburg. It was the Clinical Institute of Grand Duchess Elena Pavlovna, where therapy and surgery were the major subjects.

Cultural and educational organizations (people's universities) began to appear in the absence of accessible university education in pre-revolutionary Russia in 1906–1907. They were available for adult workers of all classes and ranks, without regard to sex, as well as national and religious affiliation. Neither the educational qualification, or the age of the students, nor even illiteracy mattered for admission to the people's university, which was distinguished by a flexible system of organizing classes and a multiple choice of training courses for students.[35]

These particular organizations of additional training became the foundation for the formation of St. Petersburg Free High School named after Professor P.F. Lesgaft (1906), Tomsk People's University named after P.I. Makushin (1915), Moscow City People's University named after A.L. Shanyavsky (1908), Orenburg Free University named after A. Kiselev, Warsaw People's University, and "University for All" in Warsaw (1906), as well as People's University in Nizhny Novgorod (1915–1916).

Thus, the pre-revolutionary period of development of the continuing learning system was characterized by diversity, on the one hand, and by a lack of educational institutions for adults, on the other hand, since the available quantity could not ensure the efficient development of industrial and agricultural production. The

[35] *Lodkina T.V., Marchenko L.A.* Istoriya razvitiya voskresnykh shkol v Rossii (do 1917) // Mir obrazovaniya — obrazovanie v mire. 2013. No. 4. P. 24–32.

pre-revolutionary education system in Russia could not even teach the majority of the people to read and write. In 1906, the journal of the tsarist Ministry of Education, Education Bulletin, predicted that universal literacy in the European part of Russia could be achieved only in 120 years, in Siberia and the Caucasus — in 430 years, and in Central Asia — in 4,600 years.[36]

1.2.2. What the Centralized System of Adult Education in the Soviet Union Turned out to Be Capable of

The educational legacy of tsarist Russia, with its inability to overcome mass illiteracy, became the objective reason for the creation of a nationwide conveyor for the creation of a professional workforce already in the post-revolutionary Soviet state. It provided qualified specialists to every branch of industry and social services.[37] Absolute state control was a key feature in the development of adult education in the Soviet period: the state combined the functions of both the labor force producer and the main employer. This ensured that the adult education system was formed according to the needs of enterprises. Ya.I. Kuzminov and I.D. Froumin called the Soviet educational system "quasi-corporate".[38] The conveyor system for the production of the labor force was partially destroyed in 1991, but its remaining elements began to readily adapt to the new conditions and tasks of large corporations.

---

[36] *Panasina S.Yu*. Nepreryvnoe obrazovanie vzroslykh — kharakternaya cherta sovremennogo obshchestva // Materialy XLIV uchebno-metodicheskoy konferentsii TGPU imeni L.N. Tolstogo. Tula, 11–12 apr. 2017.

[37] *Kuraev A.* Soviet Higher Education: An Alternative Construct to the Western University Paradigm // Higher Education. 2016. Vol. 71 (2). P. 181–193.

[38] *Froumin I., Kouzminov Y.* Common Legacy: Evolution of the Institutional Landscape of Soviet Higher Education // Huisman J., Smolentseva A., Froumin I. (eds). 25 Years of Transformations of Higher Education Systems in Post-Soviet Countries. Palgrave Studies in Global Higher Education. Palgrave Macmillan, Cham. 2018. <doi.org/10.1007/978-3-319-52980-6_2>.

Concerning the development of the adult education system in the USSR, it is proposed to consider the following stages.

On the one hand, **the first period** of the formation of adult education in the post-revolutionary country (1917 — the mid-1920s) was characterized by the need to overcome the illiteracy of the population. On the other hand, there was an urgent need for qualified specialists to develop a new Soviet industry.

The intensive development of adult education began with the eradication of illiteracy of Russian citizens. The decree of the Council of People's Commissars "On the Eradication of Illiteracy among the Population of the RSFSR"[39] obliged all citizens from 8 to 50 years old to learn to read and write. The decree provided for the implementation of forms of joint interaction in learning. The appeal "Literate, teach the illiterate!" became the slogan of this time.

New and efficient forms of additional training for adults were created all over the country. One can single out peasant youth schools (PYS), centers for literacy eradication, where reading and writing were taught, factory-and-works schools (FWS), workers' faculties, based at universities, as well as sectoral institutes and industrial academies. In 1918, the Institute of Out-of-School Learning was opened in Petrograd.[40] Along with the training of teaching staff for education, it was engaged in the study of the pedagogical aspects of adult education. Such a system of out-of-school adult literacy training was able to embrace about 50 million people during this period.[41]

The organization of the military training system was another factor that stimulated citizens to involve in adult education and development of skills. According to the decree of the All-Russian

---

[39] Dekret Soveta Narodnykh Komissarov RSFSR ot 26.12.1919 "O likvidatsii bezgramotnosti sredi naseleniya RSFSR." <http://www.consultant.ru/cons/cgi/online.cgi?req=doc&base=ESU&n= 38091 # 02201881701366395>

[40] Istoriya pedagogiki i obrazovaniya. Ot zarozhdeniya vospitaniya v pervobytnom obshchestve do kontsa XX veka / A.I. Piskunov (ed.). M., 2004.

[41] *Gorokhov V.A., Kokhanova L.A.* Osnovy nepreryvnogo obrazovaniya v SSSR / V.G. Onushkin (ed.). M., 1987.

Central Executive Committee dated April 22, 1918, "On Compulsory Training in the Military Art", broad segments of the population were involved in military training.[42] Military training solved the problem of forming a mundane culture of behavior and skills of an organized routine of the former peasant population. Beyond that, it provided people with large-scale technical education. Institutionally, the task of popularizing military-technical skills was realized through the creation of state-funded public organizations.[43]

In 1920, the first voluntary defense organization, the Military Research Group (MRG), was formed at the initiative of the participants in the Civil War, who were students of the Military Academy of the Red Army. Later, in 1926, it was renamed the Society for the Promotion of the Defense of the USSR (SPD).[44] From its very first steps, the Military Scientific Group set the task of broadly propagating military knowledge among the citizens of the country, and prominent military leaders and theorists of military affairs delivered lectures and reports for them.[45] In March 1923, a mass voluntary Society of Friends of the Air Fleet (SFAF) was created. The subsequently famous aircraft designers S.P. Korolev, A.S. Yakovlev, S.V. Ilyushin, and others began their activities in the organizations of the SFAF. In May 1924, another mass defense organization was created — it was the Voluntary Society of Friends of Chemical Defense and Industry (Dobrokhim of the USSR). Since 1927, it had been known as the United Society for the Promotion of Defense, Aviation and Chemical Construction of the USSR (OSOAVIAKHIM). By April 1928, there were more than 9,000 military

---

[42] *Kublova S.A.* Deyatelnost gosudarstvennykh organov, partiynykh struktur i obshchestvennykh organizatsiy Kurskogo kraya po podgotovke boevykh rezervov dlya Krasnoy Armii v 1921 — pervoy polovine 1941: dissertatsiya … kandidata istoricheskikh nauk. <http://www.dissercat.com/content/deyatelnost-gosudarstvennykh-organov-pa>.

[43] *Kocheshev S.P.* Ot Osoaviakhima k DOSAAF // Voenno-yuridicheskiy zhurnal. 2016. No. 3. P. 23–26. <http://elibrary.ru/item.asp?id=25589810>.

[44] *Kasyan I.N.* Istoricheskie aspekty sozdaniya i funktsionirovaniya Osoaviakhima v 20–30 gody XX stoletiya // Innovatsii v nauke: nauchnyi zhurnal. Novosibirsk, 2017. No. 6 (67). P. 23–28.

[45] *Polyakov S.P., Kaidalova N.S.* Podgotovka molodezhi k zashchite Otrchestva v predvoennyi period // Mir obrazovaniya — obrazovanie v mire. 2015. No. 1. P. 24–27. <http://elibrary.ru/item.asp?id=23457207>.

knowledge interest groups of various profiles in Osoaviakhim, and more than 514,000 of Osoaviakhim members attended them.[46] *The Osoaviakhim camps, where shooting and tactical drills, citizenship training, sports and other events were held, operated in every region and republic, as well as in large districts.*

The task of eradicating illiteracy, as well as ensuring the security of the young state, aroused great enthusiasm among the country's population and led to the creation of a centralized system of mass adult education in a wide range of both professional competences and life skills.

The second period of the formation of adult education (the late 1920s — late 1930s) became a milestone in the development of a professional educational system based on the ideology of monotechnism.[47] The concept developed by A.K. Gastev placed a key emphasis on the creation of a new industrial educational system aimed at educating a professionally-oriented personality, developing social and labor technology of education, as well as forming a new labor culture and production behavior.[48] Having become acquainted with the Western world's achievements in the field of technology and scientific organization of labor during the period of emigration to France, Gastev arrived at a conclusion that it was possible to acquire new equipment quickly, but it was impossible to simultaneously import the professional, organizational and labor culture of its service. Therefore, he placed a key emphasis on educating a person for the

---

[46] *Minakov A.S.* Oboronno-massovaya rabota i voennaya podgotovka v SSSR v predvoennyi period // Vlast. 2013. No. 7. P. 168–170. <http://elibrary.ru/item.asp?id=19527247>.

[47] Monotechnism (Greek monos for "one") is the strand of pedagogical thought of the 20s of the XX century. It reflected one of the approaches to the problem of the relationship between general and professional education, affirming the primacy and supremacy of the second. The mono-technical approach to the content of education was aimed at shortening the general education cycle and increasing the practical orientation of the educational program.

[48] *Gastev A.K.* Trudovye ustanovki. Moscow, 1973.

industry and with the help of the industry, for the field and with the help of the field, including through the formation of a special "psychology of a working person."

Meanwhile, training centers were created at large enterprises, including technical colleges, technical schools, schools and vocational education and training courses for the education of practitioners, and industrial academies for managerial personnel.[49] The most important trend of this period is the transformation of former people's universities into institutions of basic higher and continuing learning and development for adults. Specialized schools, technical schools, and technical universities established by the sectoral People's Commissariats at the end of the 1920s began to organize further training in off-work hours and took over the main functions of providing adults with professional education.

The transfer of advanced industrial technologies also took place individually (through job training) or at the workplace in the aftermath of the purchase of foreign equipment and the construction of new factories with the involvement of foreign specialists.

Thus, in 1929, the SCNE of the USSR[50] and the American corporation Ford Motor Company concluded a 9-year agreement on technical assistance in organizing and launching mass production of cars and trucks. The American architectural bureau of Albert Kahn designed the plant, the American company Austin carried out the technical supervision of the construction, and the construction was carried out by the trust Metallostroy.[51] Ford company sent its specialists to consult and monitor the progress of construction, installation of equipment, and the launch of the plant; it also received up to 50 Soviet trainees per year for the study of production.

---

[49] Istoriya pedagogiki…

[50] The Supreme Council of National Economy (SCNE) — the name of the central state body for manageing the national economy in the Soviet republics and the USSR.

[51] *Shpotov B.M.* Kompaniya Forda i Rossia, 1909–1941 // USA: economika, politika, kultura. 1999. No. 5. P. 76–88.

The established system of sectoral staff training turned out to be so solid that it was able to further survive the revolutionary changes in the forms of economic management in the 90s. Largely, it became the basis for corporate education in large corporations of modern Russia.

In 1931, higher education institutions began to enroll adult applicants in evening and correspondence courses and not in full-time studies. It was a significant step in the development of the system of formal continuing education for adults.[52] By 1940, the Soviet Union had 18 correspondence universities and many individual correspondence courses in 383 universities, geared towards the requirements of industry.[53] Only workers specialized in certain sectors of the national economy were involved in training programs, in accordance with the labor requirements. The number of students and programs for each institution was based on the projected growth of industries. At the same time, there were restrictions on enrolment — only those who worked within the relevant specialty could choose the external study mode or evening-time education. It once again confirms the thesis about the existing "quasi-corporate" system of adult education.

Vocational education and training courses for "red economic executives" and the All-Soviet Industrial Academy, which operated as part of the Supreme Council of the National Economy, provided social lifts for leading officials who were the representatives of the peasant and working classes.

Officially, the Industrial Academy was considered a higher educational institution, but, in fact, it provided education in the scope of secondary school, as well as the technical knowledge necessary for working in the sector of industry.[54] Many representatives of the Soviet Stalin-era elite of

---

[52] *Fitzpatrick S.* Stalin and the Making of a New Elite, 1928–1939 // Slavic Review. 1979. Vol. 38 (3). P. 377–402.

[53] *Bim-Bad B.M.* Pedagogical Encyclopedic Dictionary, 528. M.: Great Encyclopedia of Russia, 2002.

[54] *Abrosimov I.* Kadrovaya politika vlasti v SSSR. 1939–1953. <Http://www.pseudology.org/state/KadrPolicy1939_1953/07.htm>.

functionaries, including N.S. Khrushchev, graduated from the Academy in the 1930s, thus principally receiving their first academic certificates recognized in the USSR.

The slogan "cadres decide everything" becomes the key slogan in the country after the re-equipment of production. Despite all the contradictions of that era, skilled people are declared "the most valuable capital."[55] Regular upskilling gradually becomes applicable to various categories of workers.

The third period (1941 — the late 1940s) is characterized by the general mobilization of the population to take part in additional training during the Great Patriotic War. Military emergency required the organization of continuous training for not only workers and highly qualified personnel engaged in the production of weapons, but also for management in all spheres of industry, medicine, and, of course, accelerated training of officer corps since the army was practically deprived of leaders due to Stalin's repressions before the war.[56] There was a massive creation of short-term courses for the improvement and retraining of officers and medical staff, and workers learned new production technologies in tradesman schools and workschools. However, such superficial education could not replace full-fledged military training, which led to fatal consequences in the form of an extremely unsuccessful start of the war and huge losses suffered by the Soviet side.

The fourth period (1945–1960s) is characterized by the formation of the world's best mass scientific and technical education and leisure in the USSR. Its emergence is associated with the beginning of the implementation of the atomic project. The new military threat to the state and the possibility of overcoming it through the advanced work of scientists and engineers were reflected in a change in atti-

---

[55] I.V. Stalin's speech in front of graduates of military academies 05/04/1935 <http://dslov.ru/txt/t10.htm>.

[56] *Volkogonov D.A.* Triumf i tragediya // Politicheskiy portret I.V. Stalina. In 2 books. M., 1989.

tudes towards science and technology, forming a separate important and priority area in the system of additional training not only for children, but also for adults.

In 1947, the All-Union Society for the Dissemination of Political and Scientific Knowledge (since 1963, the Society "Knowledge") was established in the country. Enlightenment was carried out by lecturing, as well as the publication of popular science literature.

According to the first Board Chairman, academician S.I. Vavilov, the Society was supposed to "be a mediator and convey real, high, and advanced scientific knowledge from specialists to the people". "Science is taught, knowledge is transferred from one person to another — this is the special meaning of this Russian word," Vavilov noted.

The Society was a network organization built on a territorial principle. Authoritative people known in scientific and public circles (rectors and heads of departments, doctors of sciences and professors) were at the head of the boards of the republican, krai, regional and district organizations, scientific and methodological councils, bureaus, and sections of the Society. Essentially, scientific and methodological councils or sections of the Society were associations of lecturers in their specialty. Approximately 2/3 of the lectures were paid, and enterprises transferred a fee to the lecturer. The rest of the lectures were called patronage and were delivered free of charge. The greater the demand of the audience for a particular lecturer, the more lectures he could give, and the greater percentage of lectures was paid. Moreover, every adult in the USSR listened to an average of four to five lectures of the Society annually.

In order to develop educational activities, the state allocated resources that could be called huge, even by modern standards. The Society received property, equipment, funds, and functions of the All-Union Lecture Bureau (under the USSR Ministry of Higher Education) and the League of Militant Atheists (which was also engaged in the dissemination of scientific and materialistic knowledge). It also got the Moscow Polytechnic Museum, the Polytechnic Library, the icebreaker Krasin, thousands of Houses of Knowledge, Houses of Scientific and Technical Propaganda, lecture halls, libraries, as well as people's universities, planetariums, printing houses, sanatoriums,

boarding houses, and holiday centers throughout the USSR. The newspaper *Argumenty i Fakty* (Arguments and Facts), later published with a circulation of over 33 million copies, appeared as a weekly bulletin for the propagandists and agitators of the Society "Knowledge."

Initially, the topic of the lectures was concentrated around the popular naturalistic and engineering and technology context. However, lectures on history and party topics and reviews on the theory of Marxism came to the fore by 1953, and their propaganda became the main content of the work later.[57] In our opinion, this particular predominance of propaganda in the work of the Society "Knowledge" led to the actual destruction of the Soviet enlightenment system in the 1990s.

In 1951, the All-Union Voluntary Society for Cooperation with the Army, Aviation, and Navy (DOSAAF of the USSR) was established on the back of previously established organizations that spread military-technical knowledge. The formation of a way of life and the simplest military-technical skills was not among the main tasks of the Society as much as it was the direct training of graduates and young workers in large-scale technical professions for the national economy, which have military-applied significance. The numerous training organizations of the DOSAAF became the focal point of this system. They trained over 10 million drivers, mechanics for servicing various types of vehicles, military builders, as well as radio operators, sailors, and parachutists. Most of the DOSAAF schools successfully coped with these tasks, mostly tackling the tasks of the initial professional education system.[58]

In 1958, the All-Union Society of Inventors and Efficiency Experts (VOIR) was established by the decision of the Executive Committee of the All-Union Central Council of Trade Unions, and it launched mass educational and consulting support for the activities

---

[57] Russian State Archive of Social and Political History. <http://www.rgaspi.su/>.

[58] DOSAAF Rossii: istoriya organizatsii <http://www.dosaaf.ru/about/history/>.

of workers to introduce innovations in the production environment. VOIR provided expert assistance to enterprises, organizations, and specialists in organizing advanced development of new equipment and technologies, exercised public control over compliance with legislation in the field of invention, etc.[59] In the absence of free scientific and technical entrepreneurship, VOIR directed the activities of proactive workers towards the technological improvement of industrial processes of large enterprises.

However, during this period, negative trends began to appear both in the organization and in the content of adult education. Primarily, it was an orientation towards political propaganda aimed at forming ideological attitudes that were losing credibility, as well as a restricted professional directedness of the knowledge and skills acquired by the trainees, without their orientation towards the development of the individual's potential as a whole.[60] Beyond that, there were excessive centralization and regulation of the educational system, which became the basis for formalism and loss of connection with the real demands of the labor market.

As a result, there appeared a strong bias in the adult education system by the end of the period. It moved from enlightenment to political propaganda, from tackling defense and economic tasks to the formation of political attitudes. It started giving "party orientation" not only to humanities, but also to natural sciences.

The fifth period (the 1960s — 1990s) is characterized by the creation of a unified state system of further training. At the same time, the characteristic features of the Soviet adult education system were formed.

New forms of on-the-job training were developing, including individual-brigade training directly in the workplace and practical

---

[59] *Alekseev G.M.* Dvizhenie izobretateley i ratsionalizatorov SSSR // Voprosy istorii. 1969. No. 9. P. 30–48; *Viktorov A.G.* Otsenka istorii deyatelnosti VOIR s pozitsii sovremennoy nauki // Mezhdunarodnyi nauchno-issledovatelkskiy zhurnal. 2016. No. 8–1 (50). P. 138–140.

[60] *Vasilkova T.A.* Osnovy andragogiki: Uchebnoe posobie. M., 2009 .

training at another enterprise.[61] A network of sectoral institutions of advanced training was being formed.[62] Training of mid-level specialists and managers was carried out directly in higher education institutions and specialized secondary educational establishments.

The Central Institute for Vocational education and training of Leading Officials and Specialists (CIAT) of Rosatom (1967), the Institute under the State Construction Agency of the USSR, and others can be considered some of the first domestic corporate higher education institutions. Since 1977, leading officials and specialists of the national economy were required to undergo vocational education and training at least once every six years.

During this period, Komsomol was and remained the school for the development of the organizational skills of young people.[63] Social skills such as responsibility, cooperation, and openness to interaction in the implementation of Komsomol initiatives were purposefully developed among ordinary members of the Union through project-based learning and mentoring. Organizational leaders who found themselves more involved in project implementation acquired organizational and de facto entrepreneurial skills.

In 1983, the Russian Research Center at Harvard University surveyed 1,183 former Komsomol activists. According to the respondents, participation in the Komsomol structures contributed to the acquisition of organizational competences, which turned out to be in demand in other fields of activities later. Thanks to the acquired skills, the majority of Komsomol leaders had proven to be the most prepared for life in the post-Soviet state and society. They participated in the formation of young Russian business and new sectors of the economy (for example, banking and media sectors),

---

61 Decree of the Council of Ministers of the USSR dated 03.06.1960 No. 577 "On the System of Further Training of Managers and Engineering Employees in the Sectors of the National Economy and Employees of the Government Apparatus."

62 *Vishnevskaya A., Proskura E.* Istoriya sozdaniya korporativnykh universitetov // Biznes shkola LERNER. Korporativnye universitety. M., 2014. No. 50.

63 VLKSM (AULYKL) — The All-Union Leninist Young Communist League.

turned out to be successful directors of enterprises and companies, and became the part of the country's executive authorities.[64]

During this period, the socialist system in the USSR reached the peak of its development. At this particular time, the country's scientists began to actively discuss the notion and definition of the concept of adult education, as evidenced by the conferences and symposia held to discuss these problems.[65]

Fundamental research into the foundations of adult education in the country began in the 70s–80s of the XX century.

Under the leadership of V.G. Onushkin, the experts carried out an analysis of the relationship between labor and education at the Institute of Adult Education of the Russian Academy of Education (IAE RAE, St. Petersburg) in 1976. They also developed a methodology for studying the learning efficiency of operational personnel at the enterprise and formed a conceptual model of Soviet continuing learning, providing for the creation of an integral system of educational institutions.[66] *Later on, V.G. Onushkin (coauthored with his closest colleague E.I. Ogarev) published the country's first dictionary of terms for continuing learning.*[67]

Studying the educational aspects of the scientific and technological revolution, V.A. Vladislavlev[68] *drew attention to the objective need for*

---

[64] *Ruchkin B.A.* Komsomolskaya elita i stanovlenie biznes-klassa // Information humanitarian portal "Znanie. Ponimanie. Umenie." 2013. No. 4 (July-August). <http://www.zpu-journal.ru/e-zpu/2013/4/ Ruchkin_Komsomol-Business-Class/>.

[65] International Symposium on the Role of Higher Education in Continuing Learning (Moscow, 1974); VI General Conference of the International Association of Universities (Moscow, 1975); All-Union Conference on Continuing Learning (Moscow, 1978).

[66] *V.G. Onushkin et al.* Teoreticheskie osnovy nepreryvnogo obrazovaniya / V.G. Onushkin (ed.). M., 1987; Obrazovanie vzroslykh na rubezhe vekov: voprosy metodologii, teorii i praktiki. In 4 volumes. Vol. I. Book 1. Istoriya razvitiya obrazovaniya vzroslykh v Rossii / E.P. Tonkonogaya (ed.). SPb., 2000.

[67] *Onushkin V.G., Ogarev E.I.* Obrazovanie vzroslykh. Mezhdistsiplinarnyi slovar terminologii. SPb., 1995.

[68] *Vladislavlev A.P.* Sistema nepreryvnogo obrazovaniya: sostoyanie i perspektivy. Moscow, 1984.

continuous updating skills in the technical sphere through the systematic and independent further training of workers of all age groups.

During this period, andragogy[69] appeared in the country. This science focuses on the peculiarities of adult education through the acquisition of skills like collective labor activity, problem solution, simulation of professional situations, measurement of individual labor results, and their correlation with the set organizational goals.

The stage under consideration includes preparation and approval of conceptual documents reflecting advanced world trends in the organization of adult education in the USSR. On the other hand, they consolidate an administrative, planned, and centralized approach to adult education.[70]

The Decree of the CPSU Central Committee and the Council of Ministers of the USSR "On the Restructuring of the System of Vocational education and training and Retraining of Leading Officials and Specialists of the National Economy"[71] prescribed to consider continuous vocational education and training a direct official duty of each leader and specialist. Meanwhile, information on employees' learning in educational institutions (organizations) of the system of vocational education and training and retraining of personnel had to be reflected in the universal qualification certificate during their entire labor activity. It was the main document certifying their professional level. It was ordered to keep the average wages for the employees during their off-the-job training. The government planned to create a leading research institution of vocational education

---

[69] *Kolesnikova I.A. et al*. Osnovy andragogiki / I.A. Kolesnikova (ed.). M., 2003.

[70] Resolution of the CPSU Central Committee and the Council of Ministers of the USSR dated 03.13.1987 No. 325 "On Measures for Radical Improvement of the Quality of Training and the Use of Specialists with Higher Education in the National Economy"; Resolution of the CPSU Central Committee and the Council of Ministers of the USSR dated 03.13.1987 No. 327 "On Measures for Improvement of the Training and Use of Scientific and Academic Personnel."

[71] The Decree of the CPSU Central Committee and the Council of Ministers of the USSR dated 06.02.1988 No. 166 "On the Restructuring of the System of Vocational education and training and Retraining of Leading Officials and Specialists of the National Economy."

and training and an extensive network of educational institutions of adult education in each industry, ensuring the right to establish direct links with foreign partners in order to improve the quality of programs.

The standard provision on continuing professional and economic training of personnel in the national economy[72] *consolidated organizational opportunities for training and self-education directly at the enterprise. It also provided for the training of leading officials in case of any work-related shake-ups.*

In 1989, the USSR approved the first Concept of Adult Education, and the implementation of its basic principles was reflected in the official regulations of the Ministry of Education, the Ministry of Health, and other government departments.

However, these plans were no longer destined to be come true. Since the beginning of the 90s, significant transformations of the organizational and developmental principles of adult education have been outlined in the country.

The sixth period (early 1990s — early 2000s) is associated with the processes of destruction of the centralized system of adult education.

Changes in the existing forms of economic management led to the termination of centralized government funding of vocational education and training and retraining of adult citizens. The destruction of the managerial center caused all processes to stop at once. Professional adult education became the exclusive concern of large private corporations and groups of companies. The quasi-corporate system of adult education did not accept clumsy monopolists in the face of sectoral institutes of further training, teachers who had not seen modern production, as well as outdated and inefficient forms of education.

---

[72] Adopted by the Joint Resolution of the State Committee on Labor and Social Issues, the USSR State Committee for Public Education and the Secretariat of the All-Union Central Council of Trade Unions dated 06.15.1988 No. 369/92-14-147/20/18-22.

After the collapse of Soviet ideology, an educational campaign related to the propaganda of ideological attitudes was almost completely curtailed.[73] Labor market stagnation, characteristic of this period, the absence of the need for vocational education and training in a business environment, the lack of time to attend courses in off hours (for most workers), and many other factors did not provide an opportunity for the wide development of the market continuing learning and development. However, rhetorically, the continuity of adult education was considered a necessary precondition for the success of both economic and social reforms.

In 1992, with the beginning of the modern history of Russia, a separate article was introduced into the Education Law. It was completely devoted to adult education.[74] The state withdrew from the list of ultimate organizers of the adult education system. The professional and public accreditation replaced the state one. The system for issuing an ordinary national diploma was canceled, and it generally made the system work more flexibly. However, it did not solve the problem of sustainable renewal of qualifications of a significant number of employees in the context of constant updating of technologies.

In 1995, the government adopted Model Regulation on the Educational Institution of Continuing learning and development (Further Training) for Specialists, and it laid the foundation for the formation of a non-state sector of adult learning and education.[75]

Summarizing the history of the formation of adult education, we should note that it tackled the most important tasks of the country's

---

[73] *Mukhina T.G., Koposov E.V., Borodachev V.V*. Istoriya i perspektivy razvitiya otechestvennoy sistemy dopolnitelnogo professionalnogo obrazovaniya v usloviyakh vysshey shkoly. N. Novgorod, 2013.

[74] The Law of the Russian Federation of 10.07.1992 No. 3266-1 "On Education," Art. 26.

[75] Resolution of the Government of the Russian Federation of June 26, 1995 No. 610 "On the Approval of the Model Regulation on the Educational Institution of Continuing learning and development (Further Training) for Specialists."

economic development at all stages — from overcoming mass illiteracy and forming a new style of life to the creation of the most powerful system of technical and corporate adult education in the world.

During the seventy-year history of the USSR, the basic vector of development of adult education was directed towards the accumulation of human capital several times: Gastev's "social engineering," scientific and technical enlightenment during the war years, and general professional development during the "thawing." However, inefficiency of over-centralization and monopolism and the unjustified mixing of political propaganda and adult education did not allow the developed system to respond to the serious demand for economic growth in the 90s.

1.3. Functions, Types, and Skills of Adult Education

1.3.1. How Further Training Helps Adults

Modern views on adult education allow defining it as an efficient tool for adjusting adult behavior to technological and social changes. This main mission provides a variety of options for adult education contributions to the transfer of skills and technology, economic growth, social sustainability and development of local communities, health and well-being, individual self-realization, and personal development.[76] Continuing education fulfills a range of functions for the adult population.[77] Let us consider them in more detail.

---

[76] Global report on adult learning and education. UNESCO Institute for Continuing Learning, 2010; 3rd Global report on adult learning and education. The Impact of Adult Learning and Education on Health and Well-Being, Employment and the Labor Market, Social, Civic and Community Life. UNESCO Institute for Continuing Learning, 2016.

[77] *Zolotareva N.M., Ryabko T.V.* O prioritetakh gosudarstvennoy politiki v razvitii nepreryvnogo obrazovaniya vzroslykh v Rossiyskoy Federatsii // Vestnik Yuzhno-Uralskogo Universiteta. Ser.: Obrazovanie. Pedagogicheskie nauki. 2016. Vol. 8. No. 2. P. 7–11.

The professional function includes the adult's acquisition of the competences and qualifications necessary for professional implementation in the labor market. They provide the employee with the opportunity to participate in the production of goods and services for adequate remuneration. This function has a direct production and technological significance for employers, since it allows to directly carry out the process of producing goods and providing services.

The social function provides an opportunity to implement job skills through the integration of a person into social production and the dissemination of labor results. It complements and enriches the process of interaction with society, the economic sphere, and the state. Beyond that, it provides for acquaintance with modern technologies of social interaction (including digital), universal values, language, culture, and new types of activities. It also forms functional literacy in various areas such as financial, legal, medical, engineering, environmental, housing and utility infrastructure, etc.

The personalized function ensures the satisfaction of the individual cognitive needs of an adult (as well as his curiosity, interests, and hobbies) and develops cultural, moral and aesthetic aspects of everyday life. It serves as a basis for the emergence of hobbies, helps to reveal hidden talents, and can contribute to the expansion of professional interest and general cognitive development.

1.3.2. Types of Continuing Education

In contrast to basic, secondary vocational and higher education, adult education can be carried out not only through traditional educational programs. According to existing international approaches, one distinguishes formal, non-formal, and informal education.[78]

---

[78] Classification of learning activities (CLA). Eurostat Manual. Luxembourg: EU Publications Office, 2016. <http://ec.europa.eu/eurostat/documents/3859598/7659750/KS-GQ-15-011-EN-N.pdf >; International Standard Classification of Education. ISCED, 2011. P. 11–12, 76–77, 80–81 // UNESCO

Formal education. Adult citizens acquire basic education in educational institutions under principal educational programs (primary, secondary general, secondary vocational, and university degrees, including postgraduate and doctoral programs). Training takes place mainly on the job (in accordance with the established educational standards) and ends with the issuance of a nationally recognized document on the appropriate level of education.

Non-formal education includes all organized program modes that are not part of formal (basic) education programs, including further and continuing professional training (vocational education, training and retraining, among others for workers and employees). It also includes short-term courses, lectures, seminars, practical courses, and distance educational programs (one-time and regular). Beyond that, it uses training in the form of mentorship (according to the order), on-the-job training, exchange of experience, and training in other forms of transfer of knowledge, skills, and abilities, providing for the availability of a planned curriculum and the issuance of a document/certificate of education, training, and content of acquired knowledge and skills.

Non-formal education is always institutionalized. That is, it is offered by an organization providing pre-developed structured educational activities and student-teacher relationships.

Non-formal education does not cause changes in the level of education. However, continuing learning and development (henceforth CLD) or vocational education and training can result in a new competency or profession, as well as an awarded qualification in accordance with the professional standard, World Skills standards, or other industry standards.

Informal education provides for individual educational and cognitive activities within the framework of self-education — inde-

---

Institute for Statistics. <http://www.uis.unesco.org/Education/Documents/isced-2011-en.pdf>.

pendent acquirement of knowledge and skills through studying literature, sightseeing tours, visits to exhibitions, libraries, using online education methods, etc.

Spontaneous learning includes knowledge, skills and abilities that a person acquires in the process of life, without resorting to purposeful accomplishment of educational programs. For example, these are the ability to use household appliances, arising after reading the instructions, communication and planning skills, behavior in everyday life and in the family, etc. Spontaneous learning can also take place on the job (in the form of instructions from colleagues and managers, coaching, familiarization visit, etc.) and have specialized professional results. Activities in such events are less structured and can be carried out almost anywhere (with family or and friends, in the workplace, or at facilities provided by suppliers of education and training).

Non-formal, informal and spontaneous learning events are not institutionalized. Therefore, one of the most important trends in the development of the regulatory and legal framework for adult education is the formation of mechanisms for its recognition in the form of qualifications, job skills, or an integral part of the level of formal education.

Education presupposes the acquisition of relevant competences, including knowledge, skills and abilities. The process of mastering new competences or their transformation is the essence of continuing education.

1.3.3. Skills as a Consequence of Continuing Education

Skills are understood as the ability to perform a certain practical activity that is brought to automatism through continuous repetition. Adult education is aimed primarily at updating or mastering new skills, the types of which largely determine the typology of educational programs for their acquisition.

According to the methodology that has become widespread in the OECD countries, the professional community often uses the terms *hard skills and soft skills*.

Hard skills are the ability of an employee to perform special activities following the requirements for the workplace he occupies. These requirements set the tasks and standards for performing operations established in the enterprise and/or in the professional industry. For example, the work of a locksmith, plumber, software engineer, machine operator or system administrator will require an appropriate set of knowledge, skills, and abilities, etc. Similarly, the work of a financier, venture capitalist, and entrepreneur includes a specific skill set. Hard skills evolve unto professional competences that allow tackling complex professional tasks, and not just performing individual operations.[79]

General and specific hard skills are distinguished. *General hard skills* can be used at similar and standard production facilities in various economic entities. Their formation takes place mainly in a professional educational organization, and then they are "firmed up" directly in the company or at the workplace. Special skills are acquired exclusively in the company and can be applied only to its specific equipment or in a specific production process.

It takes a lot of time and resources to develop these skills, and especially to reach their high level.

Soft skills include multipurpose skills that can be applied and used in a large number of different roles. They generally do not depend on the professional or corporate identity of the employee.

The so-called key competences or "XX century skills" are often referred to as soft skills. For example, the European Commission identifies **eight key competences** necessary for personal self-realization and development, social integration, and employment.[80] They include:

---

[79] There is no consensus in the literature regarding the interpretation of the terms "skill," "competence" and "expertise." We will use them as synonyms unless otherwise stated.

[80] Key competences for continuing learning: European Reference Framework, Publications Office of the European Union. <https://www.erasmusplus.org.uk/file/272/download>.

1) communication in the native language — basic literacy, the ability to understand and analyze the content of information and exchange it;

2) communication in foreign languages, allowing to participate in global communication and division of labor;

3) mathematical literacy and basic competences in the field of natural sciences and technology;

4) digital competence — IT literacy, the ability to interact and tackle tasks in a computer-rich environment.

The following four key competences combine social and emotional skills:

1) learning skills, where self-discipline, persistence and motivation are key elements;

2) social and civic competences, which include communication skills, tolerance, empathy, and overcoming stress;

3) initiative and entrepreneurship, implying the ability to plan and run the projects, as well as the possession of leadership skills and the ability to innovate and take risks;

4) cultural identity and self-expression, including the assessment and understanding of various cultural forms to express ideas, experiences and emotions.

Among the key competences, one sometimes distinguishes skills under a single abbreviation 4C — cooperation, communication, critical thinking, and creative problem solving. These are the most common and truly requested "soft" skills in the professional environment, For example, employers have already enshrined their use as mandatory in ISO quality management standards.[81]

According to these standards, the Communication Skill provides for the ability to organize information exchange aimed at ensuring mutual

[81] GOST R ISO 10018-2014. Quality management. Guidelines for the involvement of employees and their expertise; GOST R ISO 9004-2010. Management for achieving the sustainable success of an organization. Quality management approach.

understanding and involving workers in the production process. The Cooperation Skill includes the ability to work in a team and arrange cooperation. It ensures the involvement of employees, the creation of common goals, knowledge, values, and standards of behavior, thus increasing the likelihood of achieving goals. Problem Solving provides for making decisions based on facts. Creativity stands out as a core skill in the process of generating new ideas, while Innovation is distinguished in the process of applying those ideas. In the context of an organization, the term "innovation" refers to the entire process during which individuals or groups generate new ideas, and then those ideas are converted into products, services, or business practices.

The National Research Council of the United States[82] and the international consortium of OECD countries (under the leadership of the Institute of Education of the National Research University "Higher School of Economics") identified clusters of cross-cutting skills called "universal competences." They include cognitive competences (reading and mathematical literacy and problem solving) and social-emotional skills, including the competence of interacting with others and the competence of self-management.[83]

Cognitive Competences

Modern knowledge-based economy caused unexpected challenges. According to the latest data of employers' surveys, the "life span" of the skill obtained through training is rapidly decreasing and is about 5 years in the context of high-tech production. As for software developers, its relevance is even less — only 1–1.5 years.[84] Thus, acquired professional

---

[82] National Research Council. Education for Life and Work. Developing Transferable Knowledge and Skills in the 21st Century. Washington DC: National Academies Press, 2012. <http://dx.doi.org/10.17226/13398>.

[83] *Froumin I.D., Dobryakova M.S., Barannikov K.A., Remorenko I.M.* Universalnye kompetentsii i novaya gramotnost: chemu uchit segognya dlya uspekha zavtra // Sovremennaya analitika obrazovaniya. HSE Univ., 2018. No. 2 (19).

[84] *Pelster B., Johnson D., Stempel J., Vyver B. v.d.* Careers and learning in Deloitte Global Human Capital Trends. Deloitte University Press. P. 29–37. <dupress.deloitte.com>.

knowledge and skills become obsolete faster than a person moves over to fulfilling labor obligations. So what is a value then?

Albert Einstein once remarked, "Education is the thing that remains when everything learned is forgotten". Following his logic, one has to objectively admit that not the memorized volume of factual material or the sequence of events and actions, but the achieved level of human thinking (cognitive) abilities is the fundamental result of education. These abilities include the ability to think, work with information, build a sequence of actions, and plan the course of tackling a task.

Cognitive processes and strategies include understanding and the ability to deal with information, critical thinking, analysis, reasoning, argumentation, interpretation, decision making, mathematical literacy and logic, research with the use of source-based evidence, literacy in the field of information and communication technology, problem solving, creativity, and innovation.

Economic research conducted over the past ten years using test systems for assessing human mental activity has shown amazing results. It turned out that cognitive skills largely determine a worker's employment, wage level, satisfaction with labor activity, and ability to meet professional standards.[85] It is also important that people can more easily eliminate the deficits of any other skills due to an increase in the level of cognitive abilities. They also understand the need to acquire new skills and even master them through self-education. The employees with the highest level of cognitive skills ensure high labor productivity and constitute the main intellectual and human capital of the company. They are always in demand, and their environment needs them. However, that's not all.

Research conducted by the Organization for Economic Cooperation and Development shows that employees with high-order thinking skills are more likely to participate in volunteer projects and

[85] *Heckman J., Stixrud J., Urzua S.* The effects of cognitive and noncognitive abilities on labor market outcomes and social behavior // Journal of Labor Economics. 2006. Vol. 24. No. 3. P. 411–482.

have a high level of trust in institutions. They also are more likely to receive awards, and, finally, they are healthier and live longer.[86]

Socio-Emotional Skills

To produce a competitive product for a constantly changing innovative market, one needs to know how to surprise the buyer. It is necessary not only to know his needs, but also to be attentive, feel desires, listen and conduct a dialogue. It is necessary to constantly analyze how the consumer's requests are changing and conscientiously transform his responses into the improvement of the product, production process or service.

The same takes place inside companies. A modern product or service is so complex to be released in a new quality, that the details of their changes can be understood and accepted for implementation only in the aftermath of the substantial involvement of all members of the organizational team. Therefore, since the end of the 60s, the number of such production operations that provide for high internal self-organization, analytical abilities, interpersonal communication and interaction has been intensively growing in the framework of the types of employees' labor actions (Fig. 1.1).

Interpersonal (social) competences of employees include teamwork and collaboration, communication, coordination, empathy, proactivity, trust, customer centricity, conflict resolution and the ability to negotiate. Beyond that, they include leadership, responsibility, confident communication, self-introduction, and active influence on others.

Intrapersonal (emotional) competences of employees include:

— self-adjustment of type 1 (conscientiousness and metacognitive skills, including foresight, productivity, self-reflection, professionalism, ethics, honesty, patriotism, and orientation on the career);

— intellectual openness (flexibility, adaptability, artistic and cultural assessment, personal and social responsibility, including cultu-

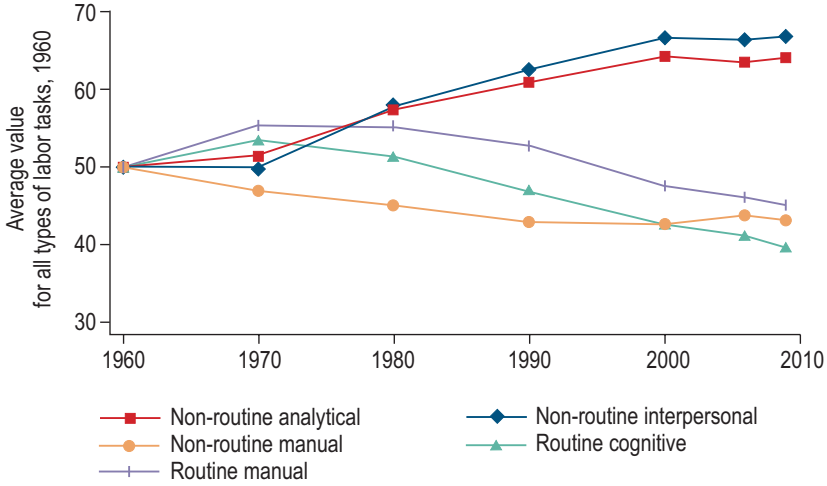
[86] *Martin J.P.* Skills for the 21st Century: Findings and policy lessons from the OECD Survey of Adult Skills.

ral awareness and competency, recognition of diversity, adaptability, as well as intellectual interest and curiosity);

— work ethic (initiative, self-management, responsibility, perseverance, and productivity); and

— self-adjustment of type 2 (positive self-esteem, self-control, self-esteem, self-amplification, physical and psychiatric health).

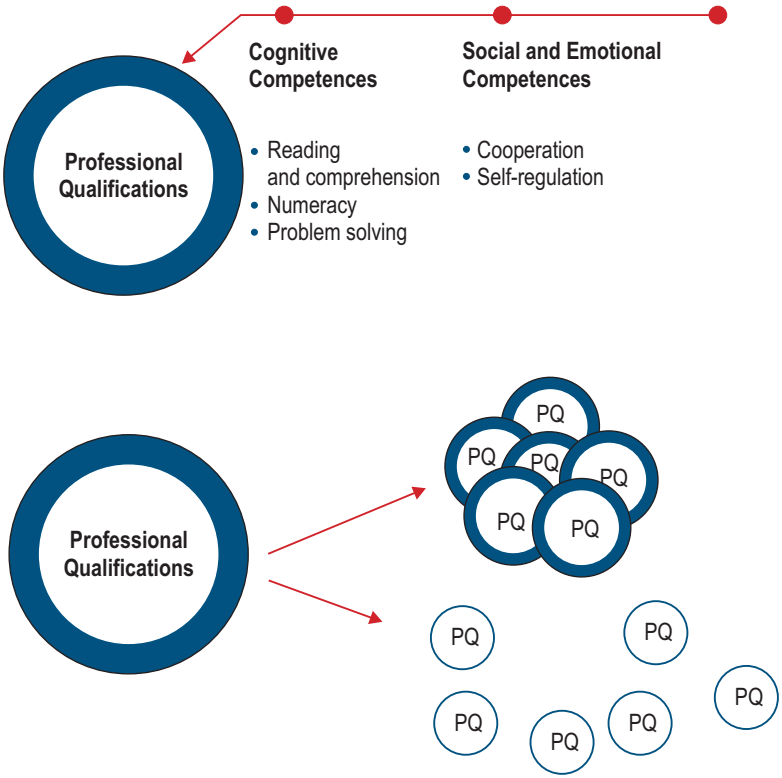
Figure 1.1. Changes in Composition of Labor by Nature of Tasks Performed



In 1991, the Secretary's Commission on Achieving Necessary Skills (SCANS) conducted an extensive survey of the skills needed by the workforce in the American labor market after analyzing more than 50 fields of activities. Interviews showed the degree of significance of various skills that go beyond academic knowledge. Another survey conducted in the 1990s, which included nearly 3,200 employers in four large US cities, proved that personal qualities such as responsibility, honesty, and sociability were more important than basic skills.[87] *Employers rated friendliness, communication skills, previous*

[87] *Holzer H.* Is there a gap between employer skill needs and the skills of the workforce? // A. Lesgold, M. Feuer, A. Black (eds). Transitions in Work and Learning: Implications for Assessment. Washington, DC: National Academy Press, 1997. P. 6–33.

Figure 1.2. How 21st-Century Skills Underpin Productivity by Driving Labor Synergies and Cohesion in the Workplace



work experience, references from a previous employer, and the ability to learn as part of the skills needed to be successful in the workplace.[88]

It is important to emphasize that the interest in general cognitive and social skills is associated not so much with the social tasks of the state as with the direct request of employers. They want these skills to ensure the efficient implementation of professional com-

[88] *Zemsky R.* Skills and the economy: An employer context for understanding the school-to-work transition // Ibid. P. 34–61.

petences through the successful integration and structuring of work collectives to tackle professional tasks. Employees who have mastered these skills independently determine the sources of growth, risks, and pitfalls in the implementation of the production process, controlling and maintaining the quality of production at a high level and with high productivity (Fig. 1.2).

Thus, the adult education system should help a person master a whole set of different competences for his successful professional and social activity, as well as personal realization. **The competency profile** formed through training will largely determine the demand for an individual in the labor market, his financial and economic well-being, social integration, health, and, ultimately, his feeling of human happiness. In this regard, the development of a strategy for the improvement of continuing education is impossible without understanding of the existing competency profile of the population.

1.4. Why It Is Essential to Know the Skill Level of the Population: How International Comparative Study Helps to Do It

In the late 1970s, the experts from the United States began to make efforts to assess key competences and, primarily, basic cognitive skills of adults at the national level. It was done in order to develop adult education systems that meet the demand of various stakeholders for skills. National Adult Literacy Survey (NALS) conducted in 1992 was the first country study.

The survey included a test that assessed a person's ability to work with texts and information of a mathematical nature. An analysis of the NALS results showed that a considerable proportion of adult survey participants were unable to understand the meaning of a plain text and perform simple calculations (for example, to calculate the amount of a discount in a store, etc.) The low level of proficiency in key competences turned out to be associated not only with a low level of educational background, but also with the performance of unskilled work and the lack of permanent employment.

The International Adult Literacy Assessment (IALS) conducted in 1994 became the first international comparative study of key adult competences. Eight countries participated in the IALS — Germany, Ireland, Canada, the Netherlands, Poland, the United States, Sweden and Switzerland. As a result, it turned out that the low level of literacy among a range of segments of the population was a problem not only for the United States but also for other developed countries that took part in the study. It turned out that 20–30% of the project participants had key competences at a low level.

A new comparative survey of adult key competences took place in 2004–2006. Australia, Canada, New Zealand and the United States participated in the Adult Literacy and Lifeskills Survey (ALL). Participants from New Zealand and Australia obtained the highest results, and the lowest indicators were in the USA, where the survey identified a large number of persons with a low level of proficiency in working with texts of various nature and performing calculations.

*Nowadays, **reading literacy** is defined as the ability to understand, assess, use and transfer information in printed texts to achieve personal and professional goals, as well as to develop intellectual potential and acquire new knowledge.*[89]

***Mathematical literacy** is defined as the ability to understand, assess, adequately transfer and use mathematical ideas and information of a mathematical nature in order to cope with the numerous problems of modern life that require solutions by using logical and mathematical methods. By the beginning of the 2000s, scientific community consolidated the opinion that the competency of working with texts and numbers cannot provide fine-grained explanations of how a person functions in society and in the professional sphere. It led to the fact that new research was supplemented with one more section — problem solving. This competence reflects the ability of a person to plan, reason and think analytically to achieve his goals when these goals cannot be achieved with the help of*

[89] OECD Skills Studies: Skills Matter: Further results from the survey of adult skills. Paris: OECD, 2015. <http://www.keepeek.com/Digital-Asset-Management/oecd/education/skills-matter_9789264258051-en#.Wak8I4rwHLw>.

known routine procedures. To some extent, it reflects a person's ability to create, perform non-routine work, and adapt to new conditions.[90]

The OECD Program for the International Assessment of Adult Competences (PIAAC)[91] has become the most recognized tool in the study of adult education and skills. It is a continuation of the international studies IALS and ALL. More than 200,000 people from 35 countries of the world take part in the study.

PIAAC aims to measure three key competences. They include reading literacy, mathematical literacy and problem solving in a technologically rich environment, that is, the ability to think analytically and achieve goals by using modern digital technologies. These key competences represent a universal foundation on which a modern person can build possession of narrower professional competences and increase his knowledge as a whole, including through mutual learning in the workplace and self-education.

For example, a high level of cognitive skills determines the efficiency of the entrepreneurial activity[92]*, and level of prowess in mathematics correlates with the possibility and extent of participation in transacting on the stock exchange.*[93]

The PIAAC survey showed that in almost all countries, adults with a low level of knowledge and education not only exhibit the lowest attainment in professional qualifications, but also have the poorest indicators for the health status and social involvement. The

---

[90] *Greiff S. et al.* Adaptive problem solving: Moving towards a new assessment domain in the second cycle of PIAAC, OECD Education Working Papers No. 156. Paris: OECD Publishing, 2017. <http://dx.doi.org/10.1787/90fde2f4-en>.

[91] OECD. <http://www.oecd.org/skills/piaac/>.

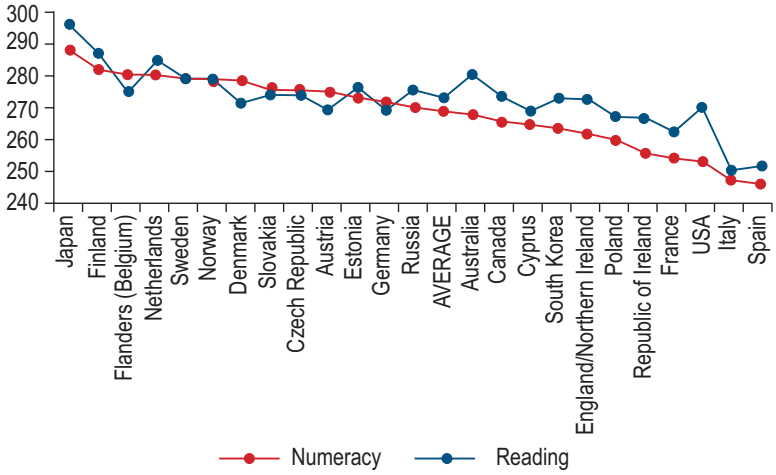
[92] *Ramos R., Nieto S.* Do entrepreneurs use different skills? Evidence from PIAAC. <http://2018.economicsofeducation.com/user/pdfsesiones/153.pdf?PHPSESSID=r15ekrrj75issqtdl62e5vho24>.

[93] *Jonas N.* Les capacités des adultes à maîtriser des informations écrites ou chiffrées. Résultats de l'enquête PIAAC 2012 // Insee Première. No. 1467. Octobre 2013. <https://www.insee.fr/fr/statistiques/fichier/1281418/ ip1467.pdf>.

less a person's basic skills are developed, the lower his trust in various institutions, and the less belief he has in the ability to influence his life.[94]

Japan and Finland showed the highest scores for adult math literacy and reading in the world. These are trailed by some margin of score points by Denmark, the Netherlands, Norway, and Sweden. Germany, Austria, Poland, Canada and Australia showed average scores, while Italy and Spain showed low results. The USA has scored slightly below the PIAAC average and below the average score for Russia (Fig. 1.3).[95]

Figure 1.3. Russia's Scores for Numeracy and Reading on PIAAC Survey, Compared to OECD Nations



[94] Skills Matter: Further Results from the Survey of Adult Skills. OECD Skills Studies. OECD Publishing, 2016. <http://www.keepeek.com/Digital-Asset-Management/oecd/education/skills-matter_9789264258051-en#.WOPEJVJMSUk#page1>.

[95] According to <www.piaac.ru>.

As in many other countries, basic cognitive skills directly depend on the level of basic education and deteriorate with age (Figs 1.4 and 1.5). It is noteworthy that the level of cognitive skills in the system of secondary vocational education (SVE) is lower than that of schoolchildren. Presumably, it is explained by the fact that there are prospective university students in the cohort of schoolchildren.

Results obtained in 2013 indicate a high average level of reading and mathematical literacy. The average score of Russia turned out to be higher than the average grade of the OECD countries. The only competence that Russian participants possess worse than the OECD countries (on average) is problem solving in a technologically rich environment. On the one hand, the proportion of citizens who refused to participate in a computer survey or failed to demonstrate a sufficiently high level of ICT proficiency turned out to be high. On the other hand, a substantial part of citizens demonstrated a low level of proficiency in the competence of problem solving (Fig. 1.6).

To understand the reasons for the indicators obtained, the determined level of key competences in the PIAAC program is compared with extensive information directly about the respondent. This information includes educational level, socioeconomic performance of the employee, as well as his position in the labor market. Results of the conducted analytical surveys show that the reason for low proficiency in the "problem solving" competence is associated with the quality of jobs, the nature of work and conditions in the company, which do not ensure the efficiency of using existing skills.

Direct surveys of Russian employers also bring out clearly that there is a shortage of key competences in the labor market.[96] Russian employers pointed out the importance of the following skills for future personnel — the ability to solve problems, the ability to work in a team, ability to work independently, and job skills. Beyond that, computer skills are required for employment, and they should be at a

[96] Razvitie navykov dlya innovatsionnogo rosta v Rossii. Moscow, 2015.

Figure 1.4. How Competences of Russian Adults Are Related to Attainment in Formal Education, PIAAC Survey Scores

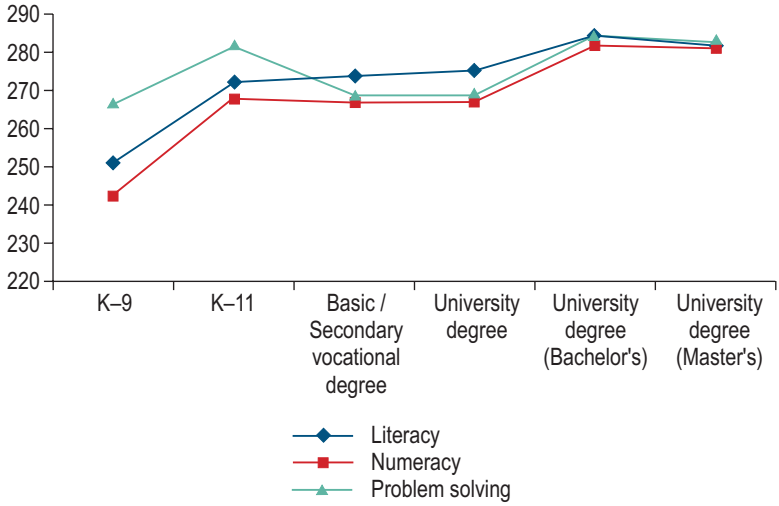


Figure 1.5. Adult Competences in Russia by Age Group, PIAAC Survey Scores

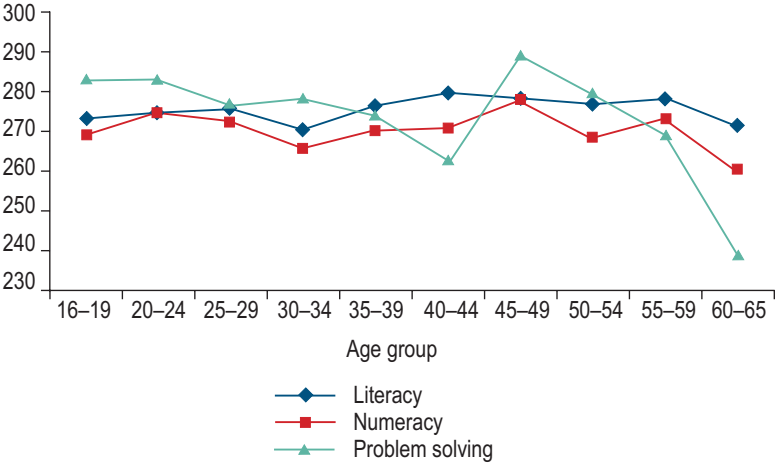
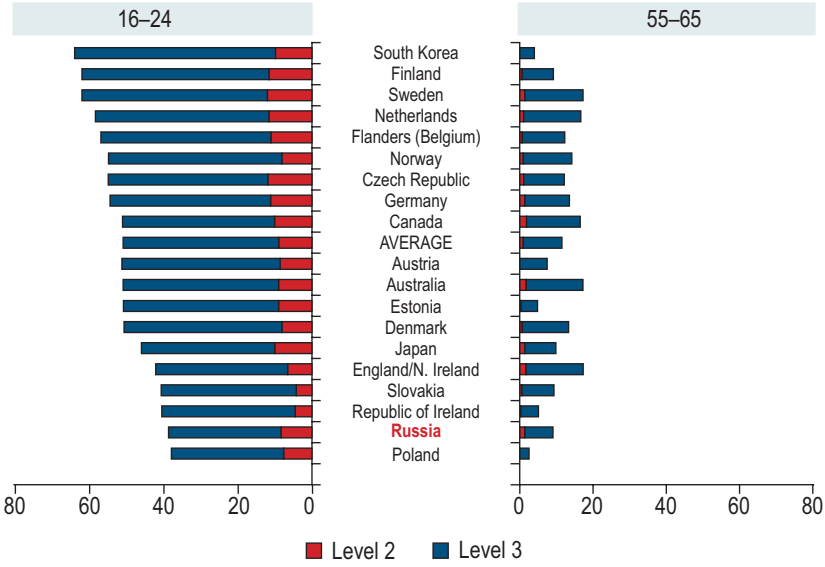


Figure 1.6. Proportion of Participants Aged 16 to 24 and 55 to 65 Years Who Scored at Level 2 and Level 3 on PIAAC Assessment of Problem Solving in Technology-Rich Environments (PS-TRE) (%)



level not lower than average. Computer skills are not expected from representatives of vocational professions to the same degree.

Training these skills seems to be the most relevant issue for the development of the economy and a crucial task for Russian adult education system that has almost no practice of implementing these programs for adults so far.

Chapter 2

How Adults Are Trained Abroad: An Overview of International Practices

The challenges of the 21st century associated with the processes of accelerated technological renewal are reflected in educational policies across the globe. The study of international practices allows learning positive and negative lessons, as well as determining the most effective measures in the development of adult education systems. For the Russian Federation, where the Soviet administrative-centralized system of professional development has been destroyed, such an analysis will allow avoiding many mistakes and building a continuing education system on stable market principles that ensure high economic efficiency of production and the possibility of personal self-realization.

2.1. Key Comparative Statistical Data on Adult Education in Countries of the World

Statistical offices of world countries (for example, Statistical Office of the European Communities — Eurostat) measure **coverage of**

various types of formal and continuing education (including short-term courses) by surveying the working population aged 25 to 64 years.[1] The statistical office publishes its results in the form of a rating showing the involvement of residents of the EU countries (aged 25 to 64 years) in the processes of adult education as a percentage of the total number of inhabitants of this age group. Nowadays, this indicator is recognized as the main index of competitiveness of the adult education and training system in both developed and developing countries.

The OECD Program for the International Assessment for Adult Competences (PIAAC) forms the most reputable rating for comparative assessment of the coverage of adult population with continuing education, basic skills and key competences. More than 35 most developed countries have participated in this Program since 2012.[2]

All available statistical data show high unevenness in the coverage of the population of different world countries with adult education (Fig. 2.1).

The highest coverage rates (60–70%) are observed in countries with long-established market relations and practices of social partnership between government and business. These are the Netherlands, Sweden, Austria, and Switzerland. The lowest (15–25%) rates are in the new countries of the European Union (Bulgaria, Poland, Lithuania, Romania and Greece). The numbers in East Asia are even lower (for example, Vietnam has less than 5%).[3]

A key role in providing competitive continuing vocational education and training for adults is played by **the scale of employers' expenses for adult education** (Fig. 2.2).

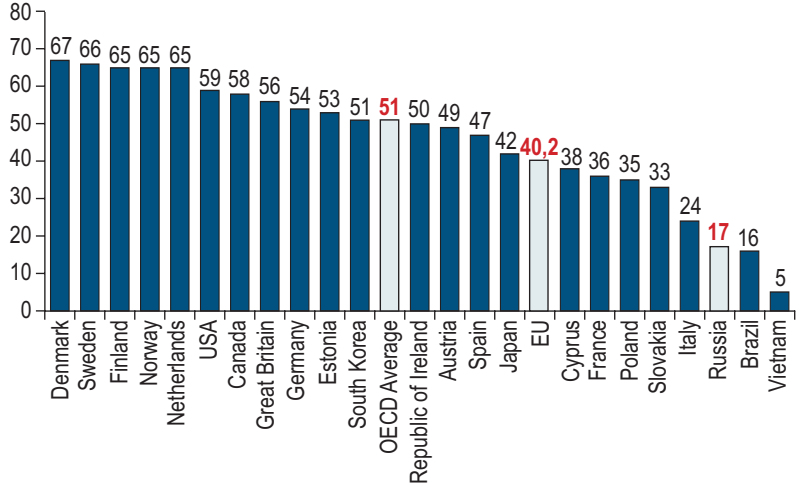
---

[1] Eurostat Statistik Explained. Education and training. <http://ec.europa.eu/eurostat/en/web/products-datasets/-/TRNG_LFSE_02>.

[2] Survey of Adult Skills (PIAAC). <http://www.oecd.org/skills/piaac/>.

[3] Eurostat Statistik Explained. Education and Training. <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_aes_100&lang=en>.

Figure 2.1. Participation of Population Aged Between 25 and 64 Years in Adult Education Opportunities During 12 Months (%)



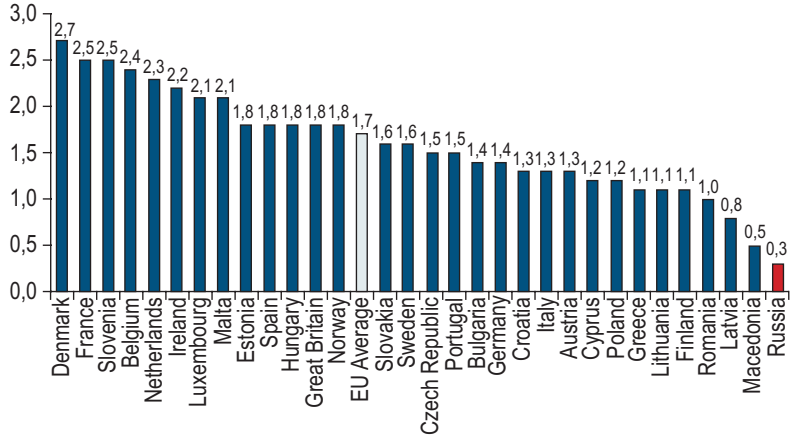
Sources: Desjardins R. Participation in adult education opportunities: Evidence from PIAAC and policy trends in selected countries. Background paper prepared for the Education for All Global Monitoring Report 2015 "Education for All 2000–2015: achievements and challenges." <http://unesdoc. unesco. org/images/0023/002323/232396e.pdf>; *Bondarenko N.V.* Stanovlenie v Rossii nepreryvnogo obrazovaniya: analiz na osnove rezultatov vserossiyskikh oprosov vzroslogo naseleniya strany // Monitoring ekonomiki obrazovaniya. Moscow: HSE Univ., 2017. No. 5 (104).

In 2015, enterprises of European countries spent an average of 1.7% of the wage fund on personnel training, and the leading countries spent about 2.5%.[4] In Russia, this indicator is 5 times less and amounts to 0.3%.[5] In absolute terms, the expenses for training Euro-

[4] Eurostat. Cost of continuing vocational education and training in enterprises. 2015. <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_cvt_16s&lang=en>.

[5] Rosstat. Struktura zatrat organizatsiy na rabochuyu silu. 2013. <www.gks.ru/free_doc/new_site/population/bednost/tabl/3-1-2.htm>./

Figure 2.2. Share of Corporate Expenditure on Learning and Development in Total Labor Costs, 2015 (%)



Sources: Eurostat. Cost of continuing vocational education and training in enterprises. 2015. <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_cvt_16s&lang=en>; Rosstat. Struktura zatrat organizatsiy na rabochuyu silu. 2013. <www.gks.ru/free_doc/new_site/population/bednost/ tabl/3-1-2.htm/>.

pean workers averaged 603 euros per employee in 1999 (in 15 EU countries — in purchasing power parity), while Danish firms spent up to 1,132 euros per employee.[6]

The state co-financing of the educational activity of the adult population solves the problem of the availability of vocational education and training and reskilling. If we look at European countries with the highest adult population coverage with education and training (Sweden, Denmark, Finland, etc.), it is increased not only by private investments in the development of new industries, but also by direct government co-financing.

---

[6] *Bassanini A. et al.* Workplace Training in Europe. IZA Discussion Paper. No. 640. 2005. P. 187.

The scale of government funding for education programs can vary significantly. For instance, it is about 100 euros per citizen of working age in Denmark, about 36 euros in Singapore, and only 4 euros in the Russian Federation.[7] Concurrently, the amount of co-financing per recipient of budget support in European countries can range from 500 to 1500 euros, depending on the type of the program. As for the Russian Federation, this amount ranges from 100 to 500 euros.

Uneven coverage of the population with continuing education is primarily associated with the policies of countries in the field of adult education and their practices for the creation and operation of these systems.

2.2. Application of the Best International Practices to Increase the Adult Population Coverage with Continuing Education

Analysis of the main trends in the field of adult education abroad allows identifying a range of the most efficient mechanisms for the development of adult learning, including:

— state support of citizens in updating vocational qualifications and stimulating the market for educational programs for adults;

— state support of the population in vocational counseling and navigation in the education system;

— formation of institutions and infrastructure for confirming the recognition of qualifications;

— development of a state and independent network of providers of adult education programs;

— measures to support and update the professional competences of the non-working population, as well as senior citizens; and

---

[7] <http://www.cedefop.europa.eu/en/publications-and-resources/country-reports/vet-in-europecountry-reports>; Future Skills Workforce Ready WDA. Annual Report 2015–16. <http://www.ssg-wsg.gov.sg/about/archive.html>; HSE Univ. calculation based on data from the Russian Federal Treasury. <http://www.roskazna.ru>.

— support for educational programs on entrepreneurship, self-employment, collaborative learning and volunteering.

A review of more than 30 cases of governmental actions[8] and implemented strategies[9] has shown that the range of measures used in different countries to organize adult education varies. It was noted that the initiated measures interrelate with the size of per capita gross domestic product (GDP) achieved in the country.

Thus, countries with a high level of GDP (Norway, Denmark, Luxembourg, Germany, etc.) use complex measures, including the creation of electronic navigating platforms, direct co-financing of programs for obtaining qualifications in various industries (for the working population), and the use of state educational certificates. They have long formed and have been actively using a system of independent assessment of qualifications, which inter alia ensures the recognition of education acquired in an informal way (in the workplace). Programs for the development of labor productivity and research of quality management system (including those aimed at lean production and entrepreneurship) prevail in the content of training.

Training vouchers (up to €500), which are distributed among employees with low annual revenue, have become a successful practice in Germany. Besides, the legislation guarantees those who attend courses during working hours that their earnings are fully preserved.[10]

France has launched a system of accounts of personal student activity («Comptes staff d'activité») for each person who starts his professional activities. As of August 2016, a total of 3.3 million people had activated their accounts to receive co-financing for training.

---

[8] Adult Education in Europe 2016 — A Civil Society View. Report of European Association for the Education of Adult. <http://www.eaea.org/media/policy-advocacy/policy-papers/country-reports_full-report-09-12-2016_without-marks.pdf>.

[9] Collection of Adult Education Policies and Strategies of UNESCO Institute for Adult Education. <http://uil.unesco.org/continuing-learning/continuing-learning-policies-database/collection-continuing-learning-policiesand>.

[10] Report on Vocational Education and Training. 2016.

Programs offered to adults in Singapore also provide direct funding for employee training. High technological focus and industry competency are distinguishing characteristics of education program providers. Organizations accredited by the Singapore Ministry of Manpower to implement programs include training centers for industrial companies, private consulting technology organizations, educational units of industry associations, and a significant number of specialized centers at polytechnic universities.[11]

Special attention is given to the adult population aged over 45: funds are allocated for its retraining to prepare for a new job at an older age. At the same time, the employer receives compensation for retaining the place of a retrained employee who has acquired new job functions.

Denmark has successfully adopted a legal framework for the recognition of previous education. The enacted law gives all adults the right to assess non-formal and informal learning and issue a detailed certificate. Educational institutions can assess and recognize previous education and results of additional educational programs and have the right to determine the courses and competences required for a higher level of education. Beyond that, they are entitled to issue a "certificate of competency" or "certificate of education" if the participant's skills match those that are established by the full educational program.

There are approximately two hundred certification bodies registered in the UK. They often delegate this function to Assessment Centers, created directly on the basis of educational service providers. In Luxembourg and Germany, chambers of industry, commerce, and handicrafts retain priority in assessing the qualifications of graduates and certifying job skills.

---

[11] Ministry of Manpower. Singapore Government. <www.mom.gov.sg/workplace-safety-and-health/wsh-service-providers/find-approved-serviceproviders/find-accredited-training-provider#/>.

The variety of forms of education, different instruments of government support and flexible educational routes (available in countries with a high level of labor productivity) make the services of consulting citizens in the field of education objectively essential, depending on the state of the labor market. For instance, the EU countries have a portal Ploteus, which is designed to ensure the mobility of their own workforce throughout the European Union. Denmark has an Education Guide. This informative electronic portal contains information on all educational programs and relevant data on the labor market. All citizens, that is, youth, adults, parents and students, as well as educational centers, are the target groups of the information portal. Using this portal, a person can independently choose an educational program and institution that will optimally ensure career and personal development.

In the EU countries, young entrepreneurs receive public investment for the development of a startup and primarily for training according to entrepreneurship programs. Within their framework, they attend not only trainings, master classes, and expert consultations, but also work on their projects under the guidance of special mentors who help them present their project to potential investors.

So, Finland has created a technology center "Hermia." In addition to training, it provides a whole range of services to support the project, including idea assessment, patent research, establishing contacts with potential investors, developing a business plan with the calculation of the required financial costs, and preparation for the creation of a new company (drawing up of recommendations). If the business model of a startup is approved, the second phase of the process begins — the business development itself. It includes specialized training for entrepreneurs, professional consulting services and financial advice when working with government funds and external investors.

Countries with low GDP levels use government programs to improve the skills of certain groups of the population, and the system

of independent assessment and recognition of qualifications is only in its formation phase.

Thus, Lithuania has adopted a law on non-formal education. However, the coordinator of its implementation at the municipal level has not been identified, which complicates its execution. In Poland, adults (so far) may get education only through periodic federal and regional government programs for financing the education of the most vulnerable segments of the population, as well as through vocational education and training of managers. Beyond that, there are entrepreneurship and self-employment classes.

Romania has designated a national body to coordinate adult education projects. However, not fully formulated terminology in the field of adult education makes it problematic to use benefits when they receive this education. State funding for adult education is insignificant here at this point. There is also no systematic instrument of financial support for further training in Slovakia, where only occasional funding of state organizations takes place. As for Georgia and Ukraine, spontaneous financing is carried out only at the expense of external donor organizations in the absence of an internal development concept.

In Bulgaria, public funding for formal education has been distributed mainly through the public network of adult schools, but the European system of recognition of learning in the workplace is being successfully implemented as well. Adult literacy and basic skills training through community-based organizations prevails in Serbia, and there is a strong need to develop a system of providers of adult technology education.

The countries that **showed the highest increases in coverage over the last ten years of observation** (from 2006 to 2016) include Turkey, France, Sweden, and Switzerland.[12]

[12] For further analysis, the following data were used: Eurostat. Participation rate in education and training (last 4 weeks) by sex and age. <http://appsso.eurostat.ec.europa.eu/nui/show.do dataset = trng_lfs_01 & lang = en>;

Turkey has achieved a threefold increase in the grown-up population coverage with adult education (from 2 to 6%) due to developing a system of independent assessment of the recognition of qualifications, including those obtained in an informal way. Other positive factors include launching a system of consulting the population on the choice of educational programs with simultaneous employment, as well as special programs for training and socio-cultural integration of refugees and migrants.

France has increased the coverage from 6% to 19% due to direct funding of personal student accounts for those starting a professional career. The development of a system for the independent assessment of the recognition of qualifications, which takes into account education received in the workplace and through self-learning, made its contribution too.

Sweden has achieved an increase in the coverage of the adult population from 19% to 30%. It has happened primarily due to the training of a significant number of migrants and refugees through direct government grants aimed at developing new forms of their education. These forms combine "language cafes," grammar sessions, speaking practice, films and lecture series, discussions and meetings with the acquisition of vocational qualifications, including in the field of cooking, crafts, etc. The system of informing citizens and asylum seekers interested in education is implemented with the aid of social networks and interaction with politicians, journalists, and language teachers.

Switzerland's leadership in the increase in coverage rates (from 20 to 33%) is due to the adoption of the law on adult education, which determines the amount of direct financing of educational programs for the working population in specific sectors in accordance with the priorities of the state's economic development.

Adult Education in Europe 2016 — A Civil Society View. Report of European Association for the Education of Adult. <http://eaea.org/our-work/influencingpolicy/eaea-country-reports />.

Based on the data presented, we systematized the measures by arranging them for different groups of trainees, depending on the GDP of the countries that used them (Table 2.1).

Table 2.1. Complex of Measures Aimed at Stimulating the Adult Education Systems Applied by Countries with Different GDP Level

GDP, thousand $ per person	Professional development of the working population	Professional development of the non-working population	Support for entrepreneurial development through education	Education for the socialization of citizens (new literacy, skills of the 21st century, self-education and collaborative education of citizens)
Over 55	Electronic platforms for digital learning, navigation through the system of continuing education and employment	Electronic platforms for digital learning, navigation through the system of continuing education and employment		
35–55	System for assessing qualifications and acknowledgment of educational certificates. System for recognizing non-formal education (learning in the workplace)	Budgetary certificates of co-financing for an informed choice of professional educational programs. Information resources for the selection of training providers	Accelerators that combine training with project development and venture capital investments	The system of state liberal education for the population, based at universities and independent providers

14–34	Budgetary certificates of co-financing for a conscious choice of professional educational programs (the market for educational programs)	Adaptive programs to support jobs for women with children and people of retirement age. Combination of counseling, training, and employment	Educational programs-contests (fairs) for emerging entrepreneurs with the possibility of obtaining state support	Educational programs of public organizations, digital platforms for self-education, volunteering, open universities for senior citizens ("the third age")
5–15	Government programs co-financing professional development in cooperation with employers. Independent law/concept on adult education	State programs for retraining the unemployed and pensioners	Short-term courses on entrepreneurial literacy fundamentals for schoolchildren and students (in the form of games)	Short-term programs for training IT literacy of pensioners, one-time programs of financial literacy

Thus, we see that governments of countries with medium and high GDP are not limited only to direct assistance to employers when acquiring the necessary qualifications for personnel in the course of implementing their support measures. They are actively engaged in enlightenment and development of basic literacy of the population, promote the socialization of disadvantaged groups of the population and migrants through volunteering and coeducational systems, and support the training of retirees. They also arrange courses for supporting entrepreneurial projects and the system of liberal education. Although these additional measures do not stimulate labor productivity in enterprises directly, they contribute proportionally to the increase in GDP and are complementary to measures related to professional development. According to the approach substantiated by G. Becker, they are most likely to renew the total human capital, that

is, crucial knowledge and skills that can be used and can give return to the employee in different companies.[13]

As a result, a proactive person is formed. He/she reacts to external situations preemptively and not passively. Showing flexibility, a person is more active in mastering new vocational qualifications and realizing existing ones, ensuring himself a higher demand in the labor market.[14] Such a resource turns out to be very efficient and productive on a national scale (and not on a specific employer), since a demanded professional more often changes his place of employment.

An analysis of the developed systems of adult education shows that these states paid much attention to the launch of the market for educational programs. In the meantime, the government is an acting subject. In all countries studied, one can note the presence of both state and non-state educational institutions and systems of non-formal education, which concurrently have significant financial and legal support from the government.

In countries with low government participation in stimulating the process of acquiring vocational qualifications, training takes place mainly as part of staffing investment processes, including both the construction of new production facilities and the innovative and technological renewal of the existing industry. General measures for improvement of the investment climate in such countries ensure the attraction of new investors and the growth of the qualifications of the population due to its training. At the same time, the activity of investors and employers is not enough to increase the coverage of the population with adult education. It is possible to ensure a two- or three-fold increase in the adult population coverage with education and, accordingly, an increase in labor productivity in the Russian

---

[13] *Bekker G.S.* Chelovecheskoe povedenie: ekonomicheskiy podkhod // Izbrannye trudy po ekonomicheskoy teorii. Moscow: HSE Univ., 2003.

[14] *David H., Katz L, Kearney M.* The Polarization of the U.S. Labor Market // American Economic Review. 2006. No. 96. P. 189–194.

Federation. However, it can be done only after the implementation of a set of highly efficient government measures to stimulate the market for additional professional educational programs, as well as the development of an independent system of assessment and recognition of qualifications.

Summarizing the results of our consideration, we will note that adult education is indeed becoming an independent segment of education, influencing the indicators of economic well-being and social sustainability of countries and therefore acquiring a set of established norms of its organization.

2.3. Adult Education as a Quality Mark of Public Administration

Attaching great importance to ensuring the stability of social processes, the state actively uses continuing education to interact with the most active part of the population. It creates conditions for professional and career growth through the improvement and acquisition of new skills.[15] Therefore, governments around the world are extremely interested in the political profit from scaling up adult education.

Studies[16] show that there is a strong correlation between the coverage of European countries' population with continuing education and the assessment of the quality of public administration. Figure 2.3 shows the dependence of the coverage of the population with continuing education on the government efficiency index for the EU countries in 2015.[17]

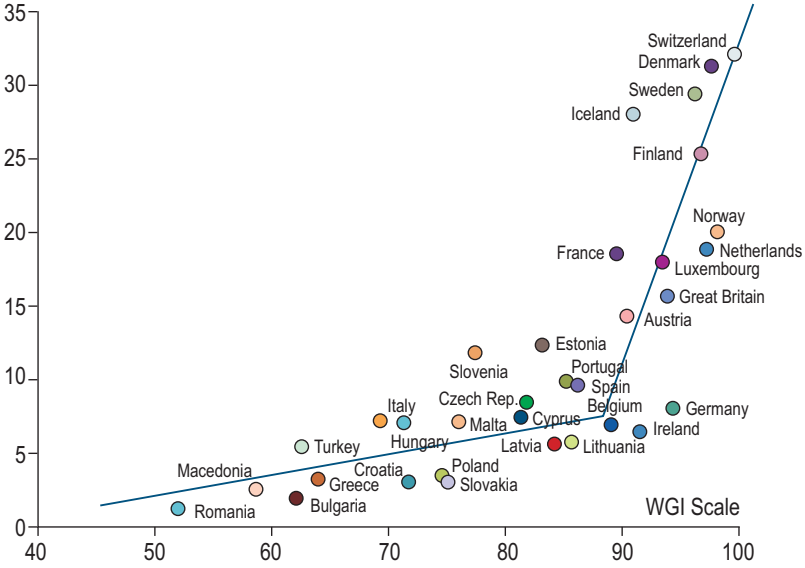
---

[15] *Busemeyer M.R., Trampusch C.* (eds). The political economy of collective skill formation. Oxford University Press, 2005. P. 95–114.

[16] *Korshunov I.A., Gaponova O.S.* Nepreryvnoe obrazovanie vzroslykh v kontekste ekonomicheskogo razvitiya i kachestva gosudarstvennogo upravleniya // Voprosy obrazovaniya. 2017. No. 4. P. 36–59.

[17] The Government Efficientness Index is determined according to the World Bank methodology since 1996 and includes the results of surveys of companies, rating agencies, non-profit organizations, individual citizens, and officials, concerning the quality of public services, trust, the level of train-

Figure 2.3. How Rates of Participation in Adult Learning and Development in EU Nations Are Related to Quality of Public Administration According to the World Bank's Worldwide Governance Indicators (WGI) Methodology, 2015 (%)



Note: Eurostat. Participation rate in education and training (last 4 weeks) by sex and age. <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_lfs_01&lang=en>.

Source: Worldwide Governance Indicator / The World Bank. <http://info.worldbank.org/governance/wgi/>.

Data analysis allows distinguishing two characteristic groups of countries.

1. Countries with low efficiency of public administration (index up to 88), whose impact on coverage is extremely small. For them, the own investment activity of large business entities that localize

ing and work of civil servants, degree of their independence, etc. <http://info.worldbank.org/governance/wgi/>.

new production facilities is the determining production factor in the organization of training for adult citizens.

2. Countries with high efficiency of public administration, which determines a significantly higher level of coverage of the population with continuing education — the slope angle of the dependence increases almost three times, while maintaining a high correlation coefficient. In these countries, government incentives are stronger than the activities of investors and entrepreneurs, who cannot be fully interested in training their employees, fearing their possible migration to other countries after further training. The governments of these countries use measures to support the population and employers in obtaining continuing learning and development, and it is not only an economic, but also an important *political tool* for increasing the level of assessment of the activities of the state itself.

Increasing coverage to high levels allows the government to reach out to a fairly wide segment of the population and increase motivation for professional activity, career growth and personal self-realization, thereby ensuring a high level of satisfaction of potential voters.

Chapter 3

The Current State of the System of Adult Education in the Russian Federation

3.1. The Structure of Adult Education: Post-Soviet Transformation

The dismantling of the state system of vocational education and retraining of personnel in the 1990s created a vacuum in the field of adult education. Employers saw no reason to invest in professional development, which was previously carried out at the expense of the budget in specialized organizations. However, the globalization of the economy and the need for businesses to work with new technologies and products have launched the activity of private and corporate adult education centers. Slowly, without significant government support, this sphere began to revive on its own with the growth of the economy, acquiring market features characteristic of both developed economies and developing (modernizing) ones.

The increased openness of the Russian economy has created the potential for active technological borrowing from abroad[1], which has become the basis for the resumption of a wide range of continuing learning and development programs in the field of transfer of new technologies at universities.[2]

Research of the Center for the Sociology of Education, Science and Culture of the Institute of Sociology of the Russian Academy of Sciences (conducted under the leadership of G.A. Klyucharev) showed that the development of adult education transforms learning into an efficient means of accumulating human capital. The researchers concluded that due to the participation of adults in educational programs, there is an increase in social wealth, knowledge and technology, which per se has a significant impact on the development of the national economy.[3]

However, consequently, socio-economic inequality develops, including educational inequality. It determines the status and economic capabilities of people, as well as their perception of reality and everyday behavior. It results in the restoration of the relationship between the ability to motivated learning, the perception of modernization activities, and the willingness to participate in them.[4] The study of corporate (in-house) education showed that it initially

---

[1] *Tonis A.S.* Povyshenie absorbtsionnoy sposobnosti (nauchno-tekhnicheskaya i promyshlennaya politika) // Strategiya modernizatsii rossiyskoy ekonomiki / V.M. Polterovich (ed.). St. Petersburg, 2010. P. 97–99.

[2] *Flerov O.V.* Genesis otechestvennogo dopolnitelnogo professionalnogo obrazovaniya: ot istokov k sovremennym problemam // Sovremennoe obrazovanie. 2017. No. 2. P. 57–82; *Baldina A.S.* Teoreticheskie aspekty professionalnoy perepodgotovki i povysheniya kvalifikatsii gosudarstvennykh grazhdanskikh sluzhashchikh // Administrativnoe i munitsipalnoe pravo. 2016. No. 4. P. 282–286.

[3] *Gorshkov M.K., Klyucharev G.A.* Nepreryvnoe obrazovanie v kontekste modernizatsii. Moscow, 2011.

[4] *Klyucharev G.A., Didenko D.V., Latov Yu.V., Latova N.V.* Nepreryvnoe obrazovanie — stimul chelovecheskogo razvitiya i faktor sotsialno-ekonomicheskikh neravenstv / Yu.V. Latova (ed.). M., 2014.

competes with government educational systems more successfully since it has a specific goal — to prepare an employee for productive work in the company. Enterprises that develop in-house adult education more easily adapt to constant technological changes. They become "learning organizations" and gain competitive advantages.[5]

Thus, the Soviet system of continuing learning and development, which had been created as a sectoral one for more than 70 years, supported the development of modern corporate training. Its traditions helped to overcome the change in the economic order, and now they are expressed in sectoral subordination and overwhelming corporate funding of a large part of adult education. Large federal agencies (for example, tax service, internal affairs agencies), state corporations (including Rosatom, the Almaz-Antey Air and Space Defense Corporation, RUSNANO), non-state companies (Sberbank, Basic Element, etc.) retained and continued to develop the networks of their own institutions for vocational education and training and reskilling. Gubkin Russian State University of Oil and Gas is an example of a classic corporate university as a government-run educational institution.[6] Its trustees and participants in the educational process include such large oil and gas companies as Gazprom, Transneft, TNK, and LUKOIL, which send their employees for vocational education and reskilling at a profession-oriented institution of higher education.

The government has begun **to form a regulatory and legal framework for adult education** that meets international standards in this field.

Nowadays, Russian labor legislation grants workers the right to further training and reskilling, including the right to learn new professions and specialties[7], entrusting financial enforcement of this

---

[5] *Klyucharev G.A.* Ob "obuchayushchikhsya organizatsiyakh" i korporativnom obrazovanii v innovatsionnov kontekste // Ekonomicheskie i sotsialnye peremeny: fakty, tendentsii, prognoz. 2014. No. 6 (36). P. 121–133.

[6] <http://dpo.gubkin.ru/>.

[7] Labor Code of the Russian Federation, Art. 197.

right jointly to the employer and the employee. Meanwhile, explicit financial liabilities and mechanisms are not established.

The main principles of reforming the system of adult education were formulated in the "Strategy for Innovative Development of the Russian Federation for the Period Until 2020" in 2011. One of its priorities included the formation of an integral system of adult education meeting the requirements of an innovative economy, as well as the creation of incentives and conditions for constant retraining and upskilling of the entire economically active population of the country. As part of the development of the continuing learning and development system at the regional and local levels, it was planned to support educational programs for adult training. They included professional development of specialists and their training in related specialties, economics, law, foreign languages, engineering, psychology and other modern areas of knowledge, as well as the implementation of educational programs for senior citizens. Special emphasis was placed on the need to develop new forms of adult education using modern computer and Internet technologies.

For the development of this concept, the Decree of the President of Russia[8] provided for an increase (by 2015) in the share of the employed population aged 25 to 65 years, who underwent vocational education and training and (or) professional development. In total, the number of people of this age group, employed in the field of economics, had to increase to 37%. However, the crisis phenomena that imposed restrictions on financial support for the program's activities, as well as the lack of coordinated statistical monitoring tools at that time, did not allow achieving the planned indicator in full.

The most ambitious changes in this area occurred with the adoption (in 2012) of the Law "On Education in the Russian Federation"[9],

---

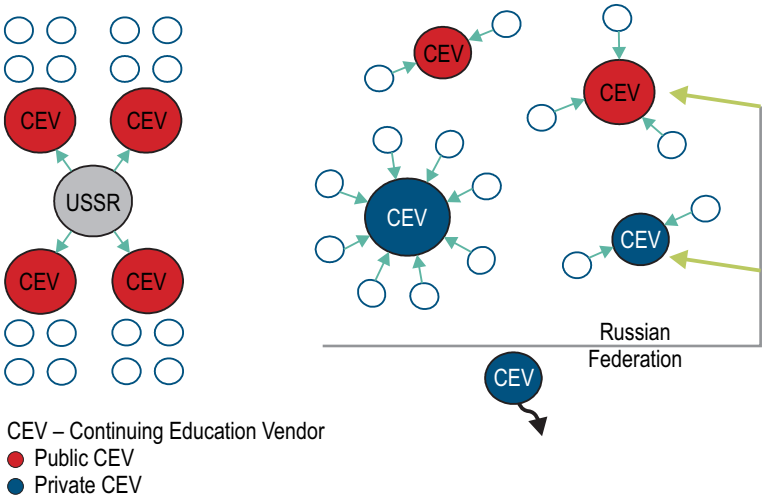
[8] Decree of the President of Russia of May 07, 2012 No. 599, para. 4 sub-s. "C" pt. 1.

[9] Federal Law of December 29, 2012 No. 273-F3 "On Education in the Russian Federation," Art. 10, sub-s. 2 and 7.

which integrated all the basic concepts of continuing education. **The definition of continuing education** introduced by the Law includes the mastering of principal educational programs and various additional educational programs by adult citizens throughout their lives, the provision of the possibility of simultaneous mastering of several educational programs, as well as taking into account existing education, qualifications and experience of practical activity when receiving education.

The adoption of the Law liberalized the field of continuing learning and development (Fig. 3.1). According to this Law, state accreditation of additional professional educational programs is not required (although the need to obtain a license is preserved), and the normative minimum terms for their mastering have been reduced. Beyond that, the Law has introduced the norms determining the priority of a professional independent system for assessing the quality of programs and the results of their mastering.

Figure 3.1. Adult Learning and Development in Russia: From Soviet Centralized Administration to Market Regulation



Government regulation of quality assurance of continuing education was assigned to the Ministry of Education and Science of the Russian Federation (and since mid-2018, to two departments at once — the Ministry of Education and Science and the Ministry of Enlightenment of Russia) and regional executive authorities in the field of education. The Ministry of Labor and Social Protection of the Russian Federation carries out the regulation of the system of independent assessment and development of qualifications, the adoption of professional standards, as well as training and reskilling of unemployed citizens. The Commission of the Ministry of Education and Science on the Development of Continuing learning and development considered interdepartmental tasks of adult education.[10]

The "Union of Heads of Institutions and Subdivisions of Continuing Learning and Development and Employers" began to perform work on the organization of public and professional accreditation and recognition of the quality of continuing learning and development programs. The Union also provides consulting and methodological support to the heads of institutions and subdivisions of continuing learning and development, keeps a specialized Internet resource, and publishes a specialist journal "Further Training in the Country and the World."[11]

The development of the field of continuing education has long been on the periphery of educational policy. It was assumed that the market itself would lead to the development of this field. Some significant programs were implemented in the 1990s (including with the help of foreign foundations and organizations) to instruct new managers and graduated specialists in the basics of a market economy. Then, already with the support of the state, programs began to develop to improve the qualifications of managers in the public

[10] Established by Order of the Ministry of Education and Science of the Russian Federation dated January 14, 2013 No. 9. <http://www.dpo-edu.ru/?page_id=16468>.

[11] Union of Heads of Institutions and Subdivisions of Continuing Learning and Development and Employers. <http: // www.dpo-edu.ru>.

sector (first of all, in the system of the state regional and municipal economy).

State funding for continuing education is carried out within a wide range of **federal and regional programs**, as well as training for the unemployed through the departments of employment agencies of the constituent entities in the Russian Federation. The most famous programs are as follows.

— The Government Program of the Russian Federation "**Education Development**," which defines the provision of accessibility to adult education as one of its key goals. The indicator of accessibility is characterized by the share of the employed population aged 25 to 65, who have undergone advanced training and (or) vocational education and training, in the total number of people employed in the field of economics in this age group. In 2018–2025, it should have been at least 37% annually.

— **Presidential program for management training**. Its target group includes the heads of small and medium-sized enterprises in the real sector of the economy (of all forms of ownership), as well as middle-ranking managers of large enterprises. About 5000 specialists are trained under this program annually. The Ministry of Economic Development of the Russian Federation, the Commission for the Organization of Management Training for the Sectors of the National Economy, and the Federal Resource Center for the Organization of Management Training (FGBI) are responsible for the implementation of the program.[12] Universities, regional universities, and foreign educational centers are the executors of the program.

— The heads of educational, health care and cultural institutions are the target audience of the program **"Management Training in the Field of Health Care, Education, and Culture."** The main objective of the program is to provide training for management personnel in the social sphere, which has a lock on modern management

[12] <http://pprog.ru>.

competences and technologies. Annually, more than 3,500 specialists are trained within the framework of the adopted program, and they are selected and sent by the constituent entities of the Russian Federation and local governments. The Ministry of Economic Development of the Russian Federation is the acquirer, and the Russian Presidential Academy of National Economy and Public Administration and its branch network are the executors of the program.[13]

— The implementation of the departmental special-purpose program **"Vocational education and training of Engineering and Technical Personnel for 2015–2016"** is recognized as one of the most successful projects in the field of adult education. In 2016, a total of 4201 specialists of engineering and technical profile were trained under professional development programs at 70 educational organizations (including 841 workers through on-the-job training in Russia, and 449 employees trained abroad). Meanwhile, the enterprises have successfully provided virtually equal co-financing at the amount of 131 million rubles, with funding from the federal budget in the volume of 130.2 million rubles. The implementation of the program resulted in the actual transfer of skills in handling a wide range of high technologies that ensure the launch of new production facilities and the creation of high-performance jobs.[14]

— The program **"You are an Entrepreneur"** remains one of the leading platforms for launching youth entrepreneurship in Russia. The target group of the program is represented by the category "youth", whose age does not exceed 30 years. During the implementation of the project, the involved quota amounted to 27,200 people. The management and coordination of the federal program are carried out by the Federal Agency for Youth Affairs (Rosmolodezh) and FGBI Russian Center for Promotion of Youth Entrepreneurship, rep-

---

[13] <http://prog.ranepa.ru>.

[14] <http://минобрнауки.рф/проекты/повышение-квалификации-кадров-2015-2016>.

resented by the program executors — educational organizations and private consultants.

— The Ministry of Labor and Social Protection of the Russian Federation implements (on an ongoing basis) **a training program for unemployed citizens** through the Regional Departments of Employment Agencies, and about 200,000 people participate in it annually. Beyond that, the Ministry and these agencies organize training of people of retirement age for enterprises and organizations. Training is carried out by specialized organizations of further training and non-state providers, determined on the back of tendering procedures.

— The Russian Federation has adopted **a Program to Promote the Improvement of the Level of the Population's Financial Literacy and the Development of Financial Education**. The Project's aim is increasing the financial literacy of Russian citizens (especially of students in schools and higher educational institutions, as well as of adults with low and middle income). Beyond that, it is designed to promote the formation of reasonable financial behavior among Russian citizens, as well as the ability to make reasoned decisions and take a responsible attitude to personal finances. The program also aims at improving efficiency in protecting the rights of consumers of financial services. The Ministry of Finance of the Russian Federation is the end customer and responsible organization, and educational institutions are executors.[15]

— In 2012–2014, **the training of discharged service persons, based on the provision of state registered educational certificates (SREC)**[16], allowed working out the implementation of a system of educational vouchers for updating qualifications with high employment efficiency. It was possible due to the conscious choice of educational programs by students for subsequent active economic

[15] <https://www.minfin.ru/ru/om/fingram>.

[16] Resolution of the Government of the Russian Federation dated May 21, 2012 No. 501.

activity. The experiment became the basis for the development of a mechanism to stimulate the working population to receive continuing learning and development through the system of budgetary co-financing certificates provided to both employees and employers in the most popular areas of reskilling.

The most recent government initiatives are the following.

— A set of measures to support continuing education, planned by **the National Project "Education."**[17] So, the specialized federal project "New Opportunities for Everyone" provides for large-scale development of the university system of continuous updating of adult skills, covering up to 3 million students per year in 2019–2025. The experts will develop procedures for the recognition of previously acquired education as part of the basic professional educational programs. For the first time, they will create a state integration platform for adult education and a set of services to provide navigation and support for Russian citizens in choosing educational programs and organizations that carry out educational activities. The federal project "Young Professionals" is supposed to create and equip centers of advanced training on the basis of professional educational organizations in cooperation with leading Russian companies.

— As part of the national program **"Digital Economy of the Russian Federation,"** the federal project "Personnel and Education" forms an integrated system of training and assessment of various types of digital literacy ("Digital Certificates" and "Digital TRP," etc.) for the period up to 2025. It also provides educational certificates for adults in the constituent entities of the Russian Federation to obtain qualifications in demand in the digital economy.

The implementation of federal and regional programs for the modernization of secondary vocational and higher education systems (with the participation of enterprises in the real sec-

[17] Approved by the Presidium of the Council for Strategic Development and National Projects under the President of the Russian Federation (Minutes No. 10 of 03.09.2018).

tor of the economy) has made it possible to significantly increase the supply of educational institutions with technological equipment meeting modern requirements of a high-tech production process. As a result, over 300 multifunctional centers of applied qualifications and centers of competence and excellence have become specialized providers of educational programs for the transfer of new technologies to a wide range of employers.

Organizations of continuing learning and development are actively becoming **participants in various territorial and sectoral clusters**. The inclusion of a continuing learning and development organization in their infrastructure is the basis for providing them with measures of government support. This organization implements additional training programs for training the personnel of its participants.[18]

An important factor in the development of the market for continuing learning and development programs was the spread of the mechanism of personified financing of adult education by the state, which introduces the principle of equal access of independent providers to the market of continuing learning and development programs. Meanwhile, the cost of educational services within the framework of tax legislation can be attributed to direct production costs of the enterprise, and the citizen is provided with an appropriate social tax deduction.

Since 2012, Russia has joined the WorldSkills International movement, creating the **Young Professionals Union (WorldSkills Russia)** with the support of the Russian Ministry of Education and Science.[19] The movement's core mission is to improve the quality of staff training based on international standards of professional development. Currently, WorldSkills Russia (WSR) trains specialists

[18] Resolution of the Government of the Russian Federation No. 779 of July 31, 2015 "On industrial clusters and specialized organizations of industrial clusters" (as amended and supplemented on September 26, 2016).

[19] <http://worldskills.ru/>.

and organizes all-Russian championships of job skills not only for college and technical school students, but also for adults. For the purpose of this training, the following activities are held:

1. Corporate championships at the production sites of the largest Russian companies. Winners represent their corporation in the annual WorldSkills Hi-Tech Final.

2. Agro Skills — a sectoral championship of job skills among employees of companies, which implies competition in three competences in the agricultural sector — "agronomy," "veterinary medicine," and "operation of agricultural machinery".

3. Annual professional development of 5000 teachers and masters of vocational education and training according to WSR standards.

It is worth noting the work of the Union associated with the introduction of international standards into the national system of further education. In 2017, the WSR Standards Demo Exam was held for the first time, and it became an independent assessment of practical skills. Following the results of the test, students received Skills passports, and employers received structured information about the professional level of young specialists.

The Russian Society "Knowledge" is one of the oldest organizations in Russia, which has performed educational activities since 1947. Since 2016, **the Russian society "Knowledge"**[20] has continued its educating work in the regions of the country. It forms intellectual content, as well as organizes and conducts free lectures and events in the field of science, education, and upbringing as part of social support for students, adults, and the elderly. Looking ahead, it strives to deal with the issues of mastering modern types of literacy and skills of the 21st century as the most demanded competences in the context of the new socio-economic and digital realities of society.

[20] <https://www.znanierussia.ru/Pages/Main.aspx>.

In the absence of state support and lack of continuing learning and development programs that finely focus on the needs of the market, **non-state initiatives of industrial and non-profit organizations** (both in the format of new institutions and educational infrastructure projects) began to be actively developed in the country.

Founded in 2015, ***the Rybakov Foundation***[21] *implements programs for adults in three areas — entrepreneurship, education, and development of the Third Sector. The programs of the* ***Equium Business Club***[22] *and* ***R2 Private Leaders Club***[23] *are created in the format of negotiation platforms for networking. They are based on group and individual coaching sessions, as well as support for the professional and personal development of group members. The projects aim to create peer learning in the entrepreneurial community to improve the efficiency of operating businesses and develop them.* ***The National Mentoring Resource Center "Mentori"***[24]*, which supports organizations that implement mentoring programs, is one of the infrastructure programs of the Foundation. Its participants get access to communities of mentors and methodological materials. Beyond that, they receive systematic training and consulting and assistance in assessing the results achieved. The Foundation works on informal training for the founders and employees of young organizations tackling social tasks (NPO, volunteers, and civic activists) through the services* ***PhilTech***[25] *(Technologies for Philanthropy) and* ***NKO-focus.***[26]

A significant number of advanced infrastructure education projects for adults and young people are concentrated around Skolkovo. **NSEI CLD Moscow School of Management SKOLKOVO**[27] *is a striking example of this. It is one of the leading private business schools in Russia and the CIS, founded at the initiative of the business community in 2006. The educational programs of the school include programs for business at all stages of its development — from a startup to a large corporation entering*

---

21 <https://rybakovfond.ru/>.
22 <http://equium.club/>.
23 <http://r2.rybakovfond.ru>.
24 <http://mentori.ru/>.
25 <http://go.philtech.ru/#what>.
26 <https://focus-nko.org//>.
27 <http://school.skolkovo.ru/ru/>.

international markets (Executive MBA, SKOLKOVO MBA, Practicum for Directors, SKOLKOVO Startup Academy, Executive Coaching, and Corporate Programs). The principle of "learning by doing" programs allows combining theoretical blocks, drills, project work, and international modules. One can note the significance of the project for the organization of training for the top management of Russian universities (under the order of the Ministry of Education and Science of Russia) through the "School of Rectors: Rectorial Personnel Reserve Program," designed for rectors and first vice-rectors, social, education, and academic areas, as well as for state and municipal administration.

Open University Skolkovo (OpUS)[28] *implements several projects on the development of academic, technological, and entrepreneurial competences to create an innovative ecosystem in Russia. For example,* **the Innovator's Navigator project** *is aimed at educational assistance in the commercialization of the results of scientific work and provides information on opportunities to support startups. The project is implemented in the form of lectures, master classes, discussions, and drills. Young academics engaged in research in the following areas are the main participants in the project. They include biomedical technologies, information technologies, space technologies and telecommunications, advanced manufacturing technologies, industrial Internet, energy-efficient technologies, and nuclear technologies. The* **School of Mentors** *project is an intensive course for organizers and mentors of project training for universities and colleges, centers of innovative youth creativity, student competitions, tournaments and skills contests.*

The non-state sector's positive experience in the field of adult education (including with state support) has led to the formation of new training providers who have close ties with potential employers, both in terms of the compliance of qualifications with professional standards and in the field of the corporate culture. This has considerably improved the quality of the offered training programs that began to include the transfer of new organizational, service and industrial technologies along with skills.

---

[28] <https://sk.ru/opus/>.

Nonetheless, the efforts of all existing programs are not enough to achieve the indexes of the level of the developed countries of the European Union and the OECD. It has been demonstrated by periodic surveys of the implementation of continuing learning and development programs carried out since 2006 at the request of the Ministry of Education and Science of the Russian Federation within the framework of the project "Monitoring the Economics of Education."[29] They allowed comparing the existing coverage of Russian adults with education with the indicators of other countries. They also compared the costs for its organization on the part of the population and employers in the Russian Federation. Russian researchers of CLD analyzed the factors influencing the motives and incentives of workers and enterprises to participate in various educational programs[30], the costs of families for adult education[31], and their impact on the subsequent advancement and mobility of employees.[32] The findings of the researchers have become the basis for the development of various types of programs for adult education and training.

3.2. Types of Programs for Adult Education

Nowadays, adult education in Russia includes a whole range of educational programs for the achievement of various professional and personal goals. One can distinguish basic educational programs (for

---

[29] Monitoring ekonomiki obrazovaniya. <http://memo.hse.ru>.

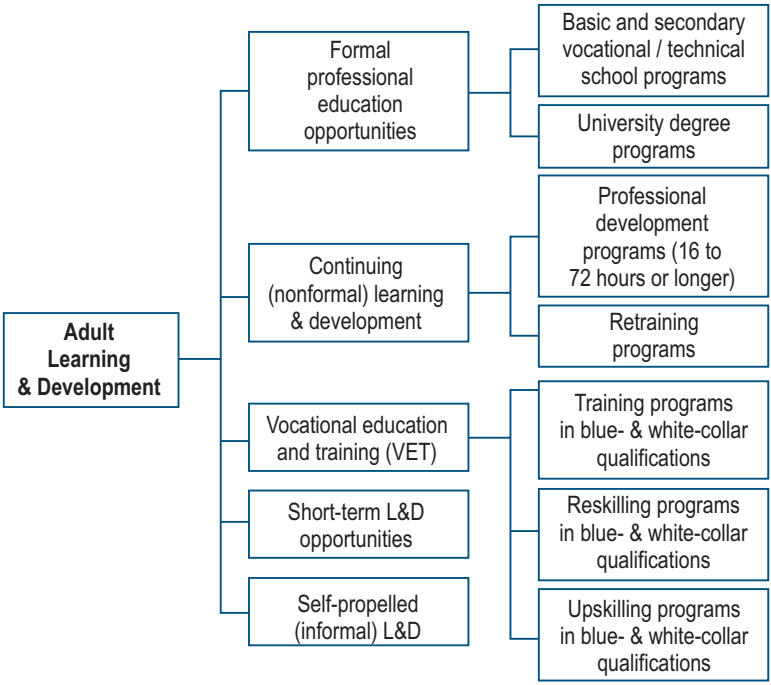
[30] *Bondarenko N.V.* Stanovlenie v Rossii nepreryvnogo obrazovaniya: analiz na osnove rezultatov obshcherossiyskikh oprosov vzroslogo naseleniya strany // Monitoring ekonomiki obrazovaniya. Informatsionnyi byulleten. M.: HSE Univ., 2017. No. 5 (104).

[31] *Galitskiy E.B., Levin M.I.* Zatraty semey na obrazovanie vzroslykh // Monitoring ekonomiki obrazovaniya. Informatsionnyi byulleten. M.: HSE Univ., 2008. No. 2 (34). <http://www.hse.ru/data/2011/05/19/1214119541/infbul34.pdf>.

[32] *Popova I.P.* Dopolnitelnoe obrazovanie kak kanal professionalnoy mobilnosti // Nepreryvnoe obrazovanie v politicheskom i ekonomicheskom kontekstakh: kollektivnaya monografiya / G.A. Klyucharev (ed.). M., 2008. P. 120–133.

secondary vocational and higher education) and continuing learning and development received in the framework of non-formal and informal training. Apart from continuing learning and development programs, adults participate in additional programs for general enrichment (Fig. 3.2).[33]

Figure 3.2. Adult Learning and Development Opportunities in Russia



Basic professional educational programs include programs of secondary and higher education for adults and provide for the receipt of a specialty and a diploma of the corresponding level of education.

[33] Federal Law of December 29, 2012 No. 273-FL "On Education in the Russian Federation," Art. 10, pt. 7.

Continuing learning and development (CLD) is aimed at meeting educational and professional needs, expanding and updating knowledge and skills on the back of an existing specialty without changing the level of education. It includes several types of training programs.

— Professional development programs provide for the improvement and (or) acquisition of new competence necessary for professional activity and (or) proficiency enhancement within the framework of the existing qualification. Based on the results of successful mastering of the professional development program, a certificate of qualification upgrade is issued. As a rule, the duration of professional development programs is 16 hours or more.

— Retraining programs are aimed at obtaining the competence necessary to perform a new type of professional activity and acquiring a new qualification. Based on the results of successful mastering of the retraining program, a diploma of retraining is issued. The duration of retraining programs ranges from 250 to 500 hours or more.

Vocational education and training (VET) is aimed at acquiring professional competence by people of different ages, including for the work with specific equipment, technologies, hardware, software, and other professional means. Beyond that, it is aimed at obtaining skill categories, classes, and categories on a blue-collar occupation or a white-collar job without changing the level of education. VET is performed according to the following programs.

— Training programs in blue- and white-collar qualifications. They suppose vocational education and training of people who previously did not have a blue-collar occupation or a white-collar job.

— Reskilling programs in blue- and white-collar qualifications. They are aimed at the vocational education and training of people who already have the occupation of a worker or the job of an employee. The participants have an opportunity to obtain a new occupation of a worker or a new job of an employee, taking into account the needs of production and the type of professional activity.

— Upskilling programs in blue- and white-collar qualifications. They will help to provide vocational education and training for those who already have a blue-collar occupation or a white-collar job. They are aimed at the continual improvement of professional knowledge, skills, and abilities of a blue-collar worker in the existing occupation (or in an existing job of a white-collar worker) without raising the educational background.

Training in the form of short-term courses, professional trainings, and mentoring in the workplace means the training that lasts at least 8 hours. It should be confirmed by a certificate (or another document), orders, regulations, or other administrative documents for organizing and conducting or sending an employee to this training.

Self-education, peer learning (including mentoring), and enlightenment are educational programs used for both professional advancement and personal growth. They provide for the independent mastery of skills (at their own discretion) to live in an innovative and technologically rich environment.

3.3. Key Indicators of the System of Adult Education in the Russian Federation

The coverage of the adult population aged 25–64 with various types of education and training is the key indicator of the sophistication of adult education system.

To implement the Decree of the President of the Russian Federation on increasing the proportion of the employed population aged 25–65 to 37% by 2015[34] *(who has undergone advanced training and (or) vocational education, in the total number of people of this age group employed in the field of economics), Rosstat proposed a methodology for calculating the indicator "The proportion of the employed population aged 25-65*

[34] Decree of the President of the Russian Federation of May 7, 2012 No. 599, para. 4, sub-s. "C," P. 1.

who has undergone vocational education and training and (or) vocational education and training, in the total number of people of this age group employed in the field of economics."[35] *The government agency relied on data of a sampling survey of the labor force. The methodology uses the results of a sampling survey (inquiry) of the labor force (based on Questionnaire 1–3*[36]*) and allows comparing the data obtained with the results of similar statistical studies of adult education abroad (in the EU and OECD countries). After all, it broadly interprets vocational education and training, including as education that the employed population receives by choosing basic professional educational programs (bachelor's degree program, master's degree program, secondary vocational education), as well as postgraduate and doctoral degree programs.*

In 2016, more than 6 million people (about 20% of all employed) received formal education.

The largest number (44%, or 2.8 million people) updated the specialty previously received in the system of higher or secondary vocational education according to *continuing learning and development programs* (Fig. 3.3). Government programs for the training of managers for enterprises and organizations of the real sector of the economy, entrepreneurship, healthcare, education, and culture remain very popular in this respect. They include the previously mentioned Presidential Program for the Training of Management Personnel for the Sectors of the National Economy, the program for emergent entrepreneurs "You are an Entrepreneur," etc.

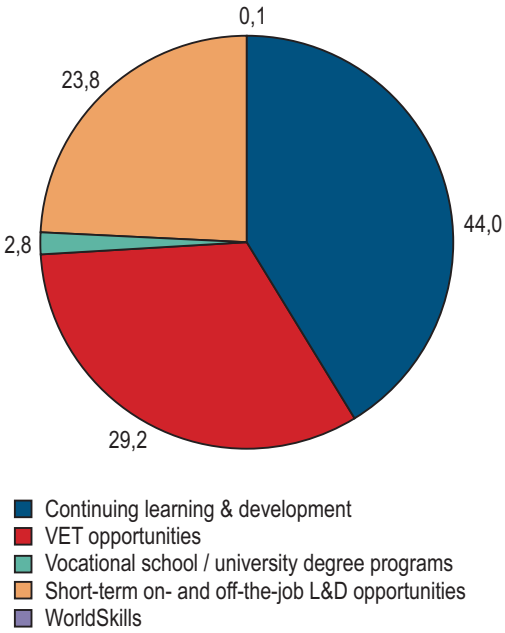
Concerning the structure of continuing learning and development programs, statistical data from 2010 to 2016 demonstrate a consistent downward trend in the proportion of "professional development" programs with a simultaneous increase in the proportion of long-term "reskilling" programs. The latter meet the need for a larger-scale technological, organizational, and managerial renewal of the industry (Fig. 3.4.).

---

[35] Approved by the Order of Rosstat of May 5, 2017 No. 316.

[36] The form of the questionnaire was approved by the Order of Rosstat of March 9, 2017 No. 165.

Figure 3.3. Participation in Adult Education by Type of Learning and Development Opportunities Pursued, 2016 (%)

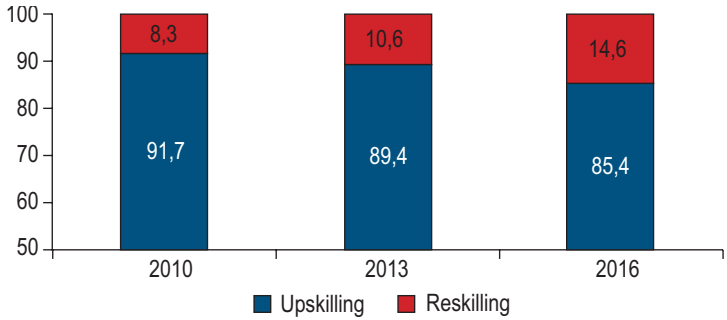


Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

In 2016, a total of 1.8 million people (or 29.2% of the total number of trained workers) completed the curriculum of vocational education and training programs associated with the renewal of the blue-collar occupation.

Vocational education and training under basic vocational education programs (henceforth, BVEP) was the least in-demand. 180,800 people (or 2.8% of the total number of trained workers) trained under them. Within the framework of formal education, the employed population mastered higher education programs to the most active extent (105,700 people or 1.7% of the total number of trained work-

Figure 3.4. Changes in Structure of On- and Off-the-Job Learning by Nature of Training, 2010, 2013, and 2016 (%)



Sources: Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2010: statisticheskiy byulleten. Vol. I / Rosstat. M., 2010; Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2013: statisticheskiy byulleten. Vol. I / Rosstat. M., 2013; Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

ers). The rest studied under secondary vocational education programs (75,100 people).

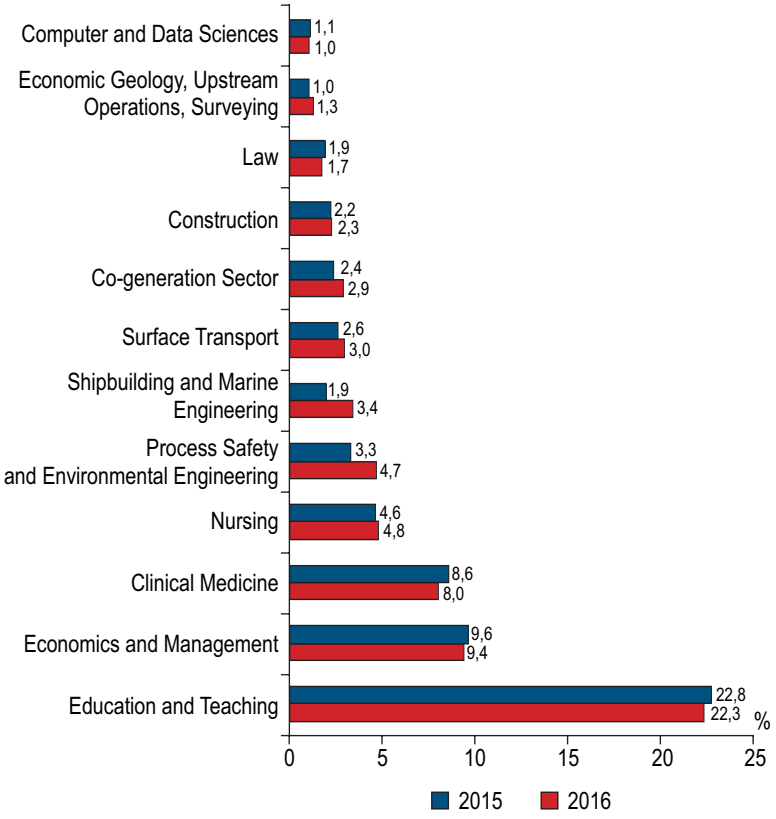
The interest of the adult population in *short-term learning and development programs* is noticeably higher. In total, 1.5 million people (or 23.8% of the total number of trained workers) trained under them.

In 2016, only 9,500 people received further training *in the category of WorldSkills championships*. This type of training involves obtaining competences of excellence in the relevant skills and includes participation in regional and Russian championships. Therefore, this group of listeners currently amounts to 0.1% of all trained adults.

In the context of the enlarged groups of specialties and occupations (henceforth, EGS), training of specialists from the public sector of the economy prevails, and programs of continuing learning and development are implemented for them. The largest proportion of

the trainees falls on the enlarged group "education and teaching," and it is typical for the trainees under both professional development programs and reskilling programs (Fig. 3.5).

Figure 3.5. Participation in Continuing Learning and Development Across Amalgamated Qualification Groups, 2015 vs. 2016 (%)



Source: Otkrytye statisticheskie dannye Minobrnauki Rossii. Svedeniya ob obuchenii v organizatsiyakh, osushchestvlyayushchikh obrazovatelnuyu deyatelnost po dopolnitelnym professionalnym programmam za 2015 i 2016 (forma No. 1-PK).

The highest increase in the proportion of trainees from the considered enlarged groups of specialties is observed in technical branches — "process safety and environmental engineering," as well as "shipbuilding and marine engineering." A slight decrease was observed in the groups with the largest volumes of training — "clinical medicine," "education and teaching," as well as "economics and management." It indicates a stabilization of demand for these programs.

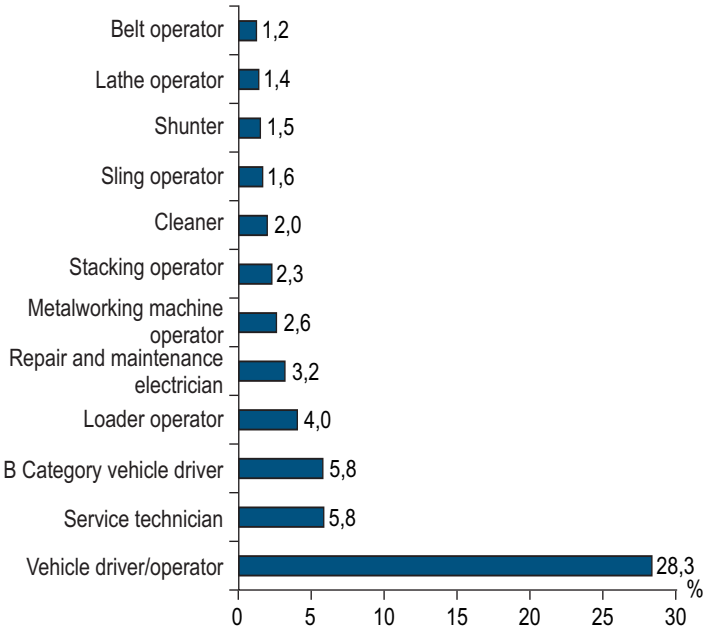
Considering the distribution of students trained under vocational education and training programs dealing with blue-collar occupations and white-collar jobs (in the context of occupations (jobs)), one can note that the largest proportion of trainees falls on the occupations of vehicle driver and service technician (Fig. 3.6). These are the most popular and in-demand occupations among the population. The growth of trainees in these areas is also associated with an increase in the number of personal vehicles among the adult population.

The distribution in the context of occupations (jobs) of persons trained under reskilling programs for blue-collar workers and white-collar employees looks a little different (Fig. 3.7). Popular occupations include sling operators and service technicians, as well as service electricians and manual welders. They are in demand in various production processes.

In general, despite the changes in the method of statistical observation over the past 7 years, one may argue that the proportion of employees who received training in 2017 increased compared to the indicators of 2010–2016. It amounted to 21.7% of the total number of payroll employees and has a steady upward trend (Fig. 3.8). The data obtained are close to the results of a population survey conducted for more than 10 years within the framework of the Monitoring of the Economics of Education HSE University[37] (Fig. 3.9). They also state a certain increase in the indicator.

[37] *Bondarenko N.V.* Stanovlenie v Rossii nepreryvnogo obrazovaniya: analiz na osnove rezultatov obshcherossiyskikh oprosov vzroslogo naseleniya strany // Monitoring ekonomiki obrazovaniya. M.: HSE Univ., 2017. No. 5 (104).

Figure 3.6. Participation in Vocational Training Across Blue- / White-Collar Occupations, 2016 (%)

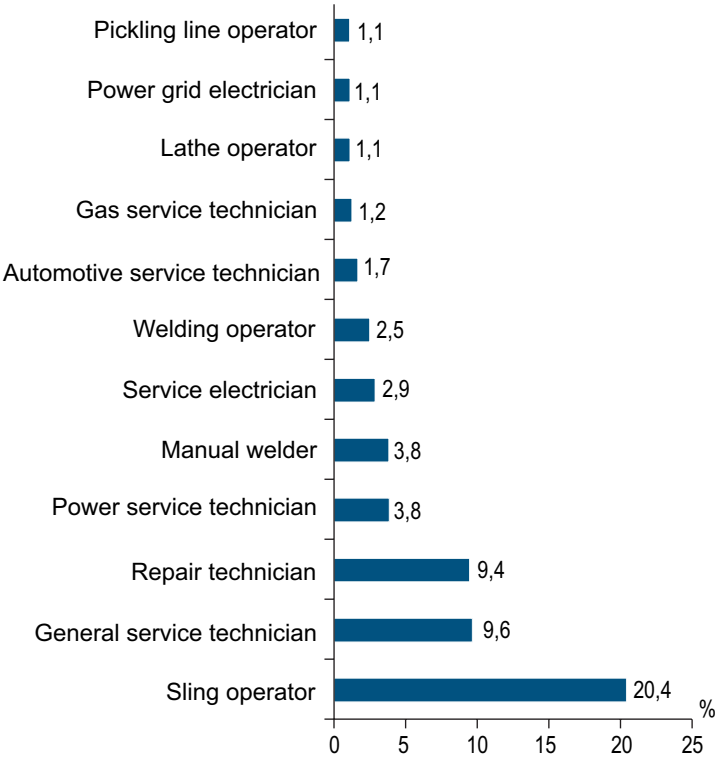


Source: Otkrytye statisticheskie dannye Minobrnauki Rossii. Svedeniya ob obuchenii v organizatsiyakh, osushchestvlyayushchikh obrazovatelnuyu deyatelnost po dopolnitelnym professionalnym programmam za 2016 (forma No. 1-PK).

Let us further consider which specific cohorts of the population have a preeminent impact on the lack of coverage of Russian citizens with education in general.

The education of adults of different age categories is uneven (Fig. 3.10). The maximum coverage is achieved at the age of 25–49 years, when employees are most actively involved in production processes, and the received basic vocational education becomes insufficient because of the renewal of technologies.

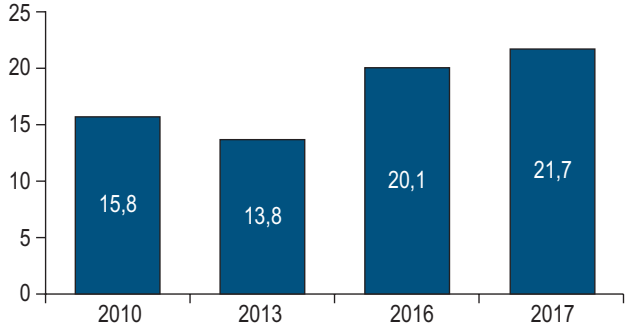
Figure 3.7. Participation in Reskilling Opportunities Across Blue-Collar Occupations, 2016 (%)



Source: Otkrytye statisticheskie dannye Minobrnauki Rossii. Svedeniya ob obuchenii v organizatsiyakh, osushchestvlyayushchikh obrazovatelnuyu deyatelnost po osnovnym programmam professionalnogo obucheniya za 2016 (forma No. 1-PO).

Concurrently, the coverage of young people (under the age of 25), who are just entering the labor market, remains relatively high. It indicates the need of enterprises for special adaptation programs for their full entry into labor collectives. A rapid decline in the education coverage is observed from the age of 50. It may become the

Figure 3.8. Change in Participation in Further Education and Training, 2010 to 2017 (% of Total National Employee Count)



Sources: Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2010: statisticheskiy byulleten. Vol. I / Rosstat. M., 2010; Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2013: statisticheskiy byulleten. Vol. I / Rosstat. M., 2013; Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017; Itogi vyborochnogo obsledovaniya rabochey sily v 2017 / Rosstat. M., 2018.

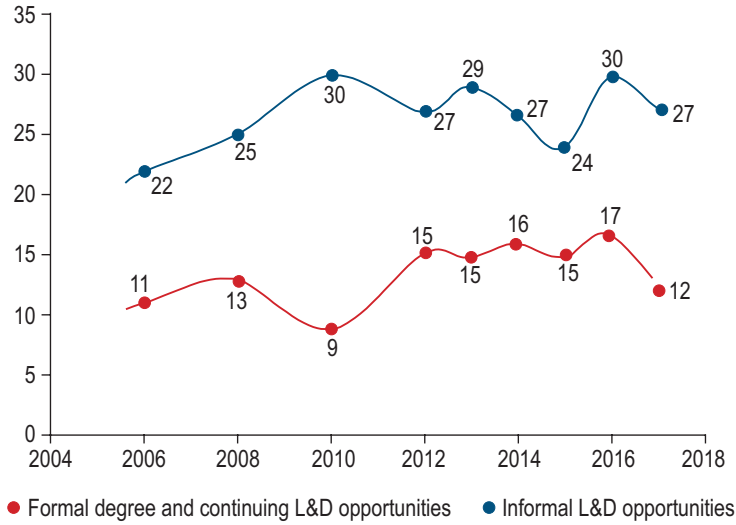
basis for a decrease in the wages of senior citizens[38], as well as their exclusion from social production and distribution of wealth, and a decrease in cognitive functions.

Nevertheless, it should be noted that the situation with the education of senior citizens has improved lately (compared to 2010), especially considering that in 2010 Rosstat measured coverage in the age cohort of only 45 years and older.

Data on adult education and training (in the context of sex) show that men, on average, study almost 17% more frequently than women. However, if we look at the data in the context of sectors, it becomes clear that it is primarily due to the different levels of

[38] *Gimpelson V., Kapelyushnikov R., Roshchin S.* Rossiyskiy rynok truda: tendentsii, instituty, strukturnye izmeneniya. Doklad Tsentra trudovykh issledovaniy i Laboratorii issledovaniy rynka truda HSE Univ. 2017. <http://csr.ru/wp-content/uploads/2017/03/Doklad_trud.pdf>.

Figure 3.9. Participation of Population Aged 25 to 64 Years in Formal, Non-Formal, and Informal Learning and Development Between 2006 and 2017 (%)

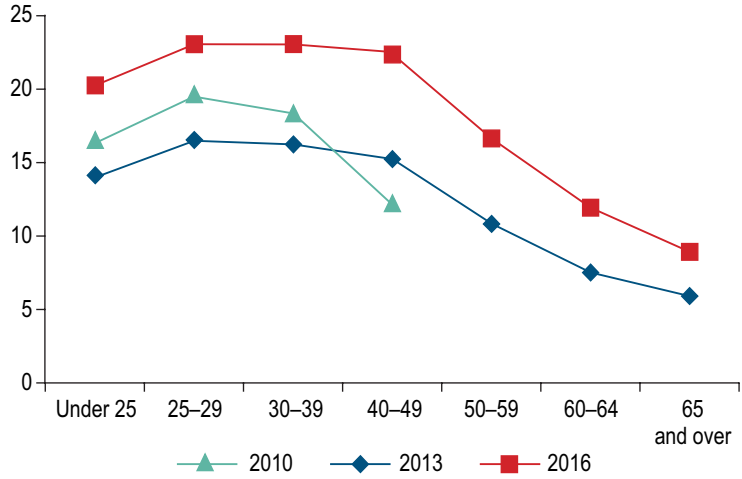


Source: Monitoring ekonomiki obrazovaniya. <https://memo.hse.ru/data/2018/03/01/1165054486/ind2017_PO_nepr_2.pdf>.

participation of men and women in the sectors of the economy and its structure as a whole (Fig. 3.11). The predominance of men who have undergone training is typical for industries that involve physical labor and exercise. The coverage of reskilling for women in such sectors like education, health care, and finance has a significantly higher rate than for men. Nevertheless, there are absolutely fewer employed men in these sectors.

Joined dynamics of budgetary and extrabudgetary spending on further training (continuing learning and development) in current and adjusted prices are shown in Fig. 3.12. The costs of enterprises are on average 4–6 times higher than those of different budget levels. However, the observed lack of growth in public expenditures

Figure 3.10. Participation in Further Education and Training by Age Group, 2010, 2013, and 2016 (% of Total Total Employees of Given Age)



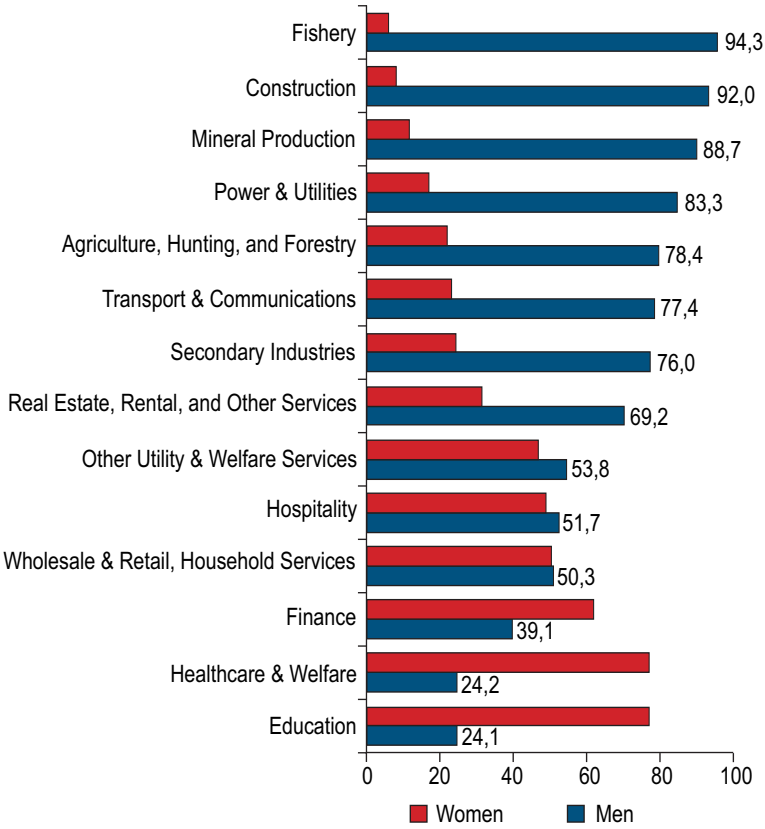
Sources: Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2010: statisticheskiy byulleten. Vol. I / Rosstat. M., 2010; Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2013: statisticheskiy byulleten. Vol. I / Rosstat. M., 2013; Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

on adult education accompanies stagnation and non-public investments in personnel.

The predominant funding from enterprises and organizations, as the prime customer, serves as the basis for *sectoral differences in the coverage of employees with various types of education and training*, which can be significant (Fig. 3.13).

For instance, every third employee in the mineral production was involved in reskilling. It is primarily associated with the fact that this sector is a high-tech one and requires constant enhanced training of personnel, including in terms of safe implementation of production processes. To stay among the leading sectors of the Russian economy, major market players acquire and introduce new technologies,

Figure 3.11. Gender Structure of Participation in Further Education and Training by Industry, 2016 (%)

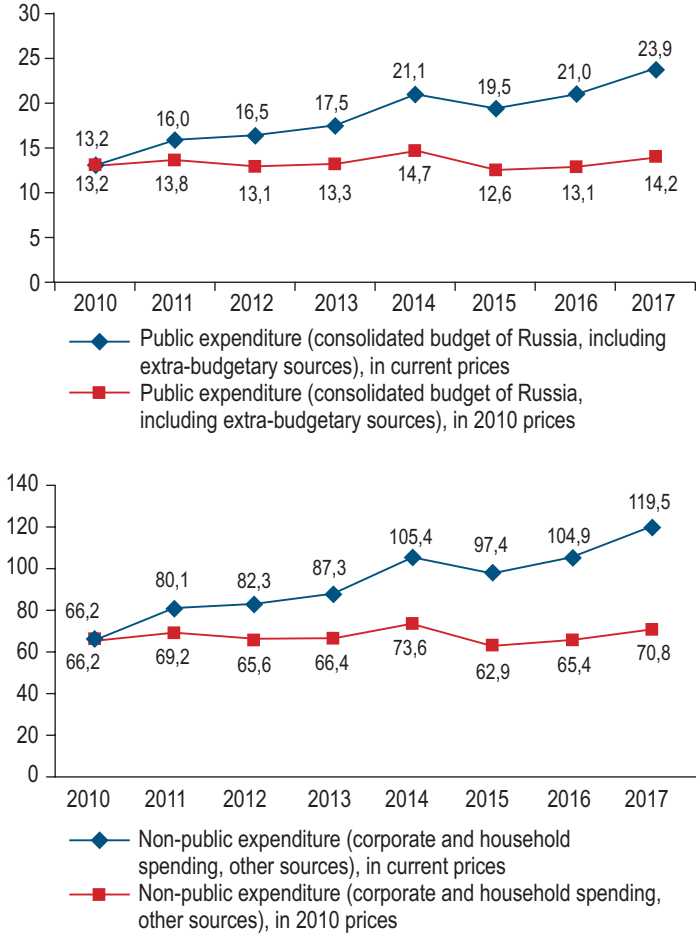


Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

and it involves employees in a large-scale educational process in a wide range of skills.

Concerning such sectors as secondary industries, power and utilities, as wells as transport and communications, only one of four employees participated in reskilling.

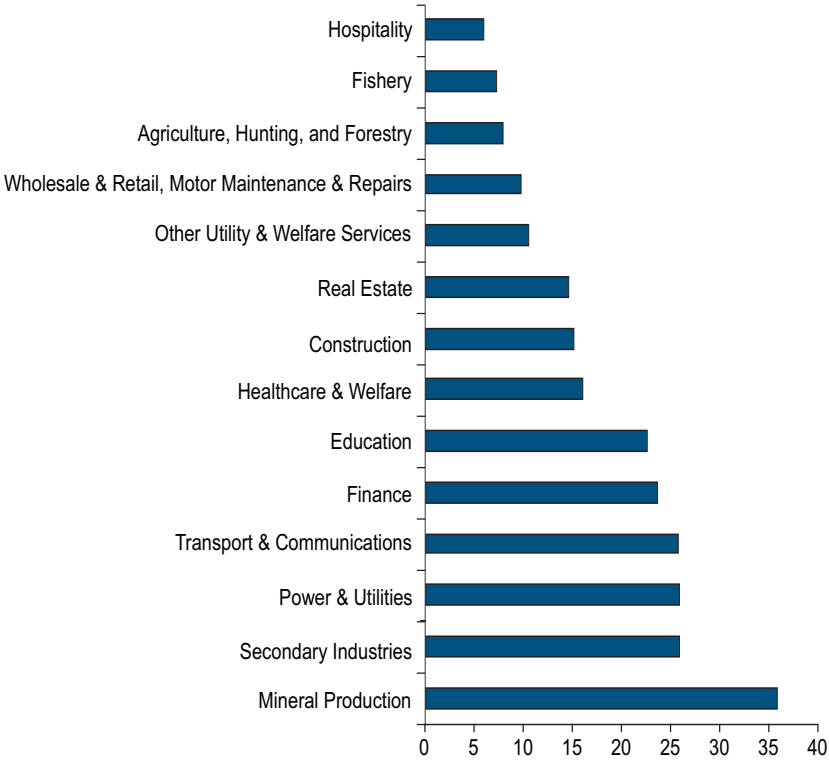
Figure 3.12. Public and Non-Public Expenditure on Talent Learning and Development, in Billions of Rubles (Current and Adjusted Prices)



Source: HSE calculations based on data from <http://www.roskazna.ru>.

Comparative analysis by year shows a positive trend in the proportion of employees who received education in almost all of the above sectors, and the largest increase took place in the education sector.

Figure 3.13. Structure of Participation in Further Education and Training by Industry, 2016 (%)



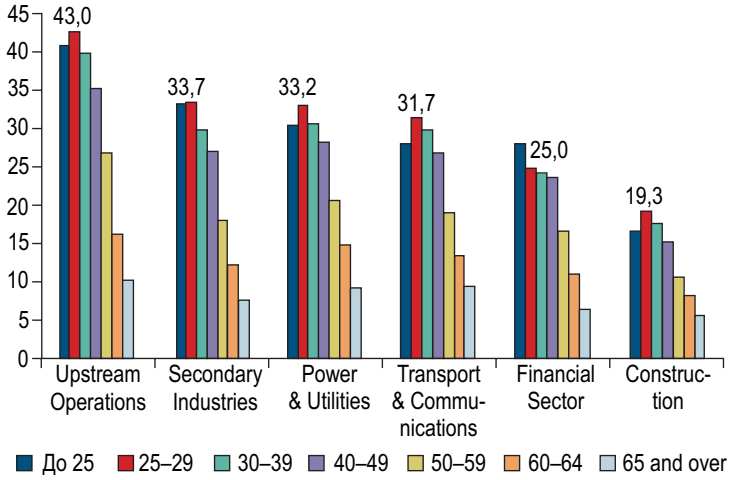
Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Despite the overall high rate of staff coverage in the sector of finance, there is a slight decline here. Zero dynamics were shown by hospitality sector, where the minimum number of trainees is recorded as well.

The smallest number of retrained workers is also observed in such sectors as agriculture, forestry, hunting and fishery. The specifics of the activities of these sectors so far presuppose less skilled labor than in real sectors, and training is not so in-demand here.

A *different age structure of personnel training* is also formed in the sectors of the economy (Fig. 3.14). Expanding industries (mineral production, secondary industries, power and utilities, as well as transport and communications) are striving to train the most productive employees aged 30 to 49 years.

Figure 3.14. Age Structure of Participation in Further Education and Training by Select Industries, 2016 (% of Total Employees of Given Age)

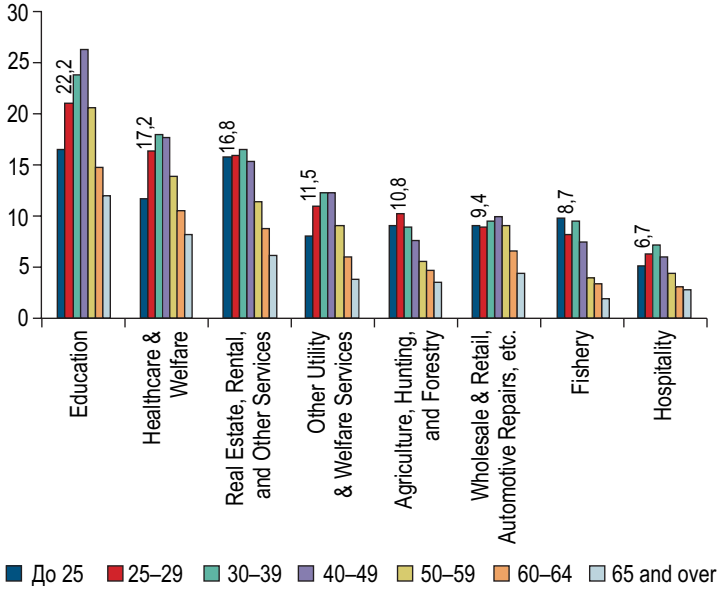


Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

It is interesting to note the sectoral areas where the age structure is different (Fig. 3.15). Thus, employees aged 30 to 49 years are leading groups in obtaining training in such sectors as education, health care, and provision of social services. In the branches of the public sector, it is due to the well-established culture of upgrading competences and the requirements of departmental statutory regulations on education.

Concerning such areas as the provision of other utility and welfare services, wholesale and retail trade, household services, as well

Figure 3.15. Age Structure of Participation in Further Education and Training by Select Industries, 2016 (% of Total Employees of Given Age) [Continued]

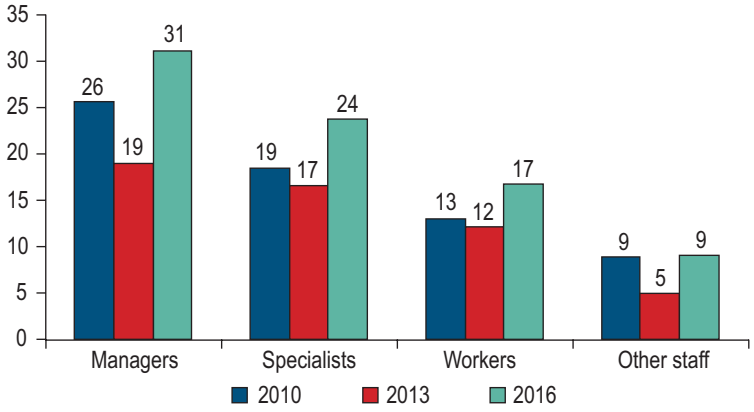


Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

as hospitality, the relatively steady nature of education by age groups is probably due to the large number of employed senior citizens who are trained directly on the job. For instance, employees acquire new knowledge in the process of servicing cars and other technical devices.

If we look at data on how various categories of employees undertake adult education, then we can infer that the category of managers leads the rest of staff groups in terms of rates of participation in professional learning and development across industries (Fig. 3.16, Fig. 3.17). Managers must have not only job skills, but also a wide range of managerial ones, which increases the need for their en-

Figure 3.16. Participation in Further Education and Training by Staff Category, 2010, 2013, and 2016 (% of Total Employees of Given Category)



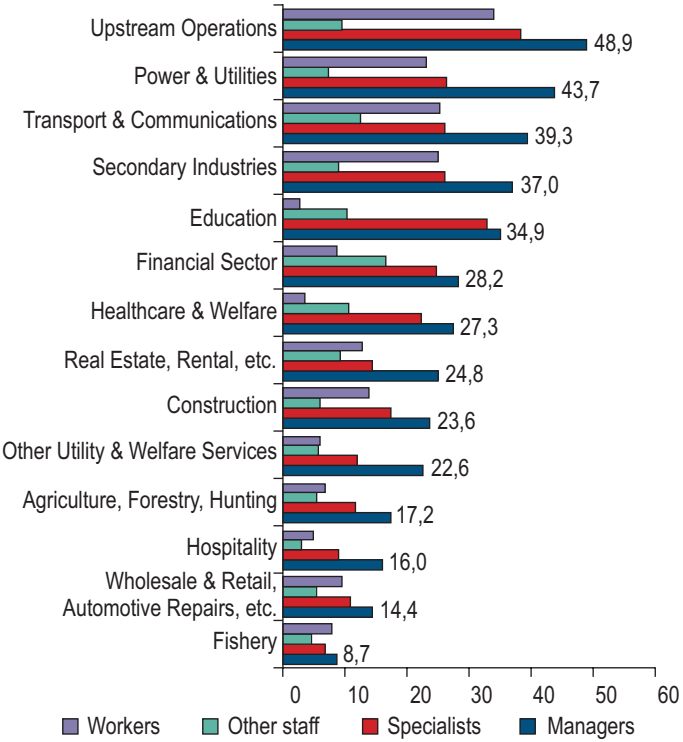
Sources: Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2010: statisticheskiy byulleten. Vol. I / Rosstat. M., 2010; Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2013: statisticheskiy byulleten. Vol. I / Rosstat. M., 2013; Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

hancement. Realizing it, the top management of enterprises always try to find appropriate funding for their training.

The lack of upward trend in the category "other white-collar workers" raises grave questions (its proportion was up to 9% of all employees in 2016). Their skilled work ensures the functioning of various social facilities. According to the All-Russian Blue- and White-collar Professions, Job Ranks, and Pay Rates (ABWCOJRPR)[39], other white-collar workers include employees who prepare and compile documentation, perform accounting and monitoring, and provide upkeep services. These are attendants, clerks, preschool teachers, medical registrars and statisticians, secretaries, community workers, etc.

[39] Rosstat. <http://www.gks.ru/free_doc/new_site/population/trud/obraz/index.html>.

Figure 3.17. Structure of Participation in Further Education and Training by Staff Categories Across Select Industries, 2016 (% of Total Employees of Given Category)



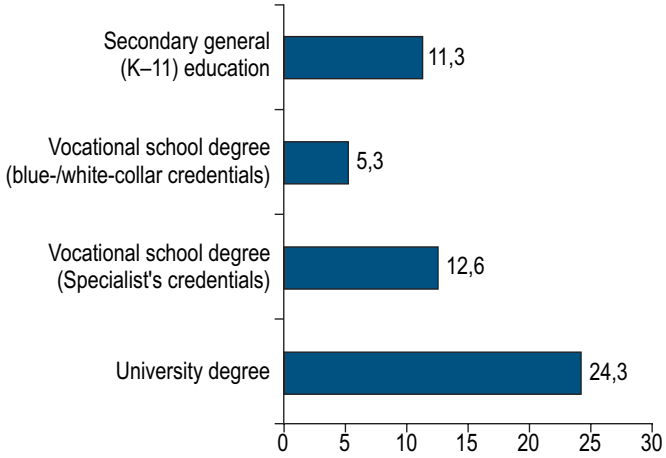
Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Comparing *the training of various categories* of personnel in the sectoral context (Fig. 3.17), one can note a significant scale of training of blue-collar workers in real sectors and construction. It is only marginally inferior to the training of managers. The training of blue-collar workers and mid-level specialists in the fields of small business, services, and agriculture is in a noticeable decline. The extremely low

level of training of attending personnel in educational institutions and the health care system is the source of potential threats.

Consideration of the scale of *adult education depending on the educational level* shows a higher coverage of persons with higher education with additional educational programs (Fig. 3.18).[40] Occupying top management positions and participating in solving significant issues of enterprise development, exactly people with higher education are more involved in the system of upgrading skills and competences. Beyond that, as they receive higher wages, they have more funds to pay or co-finance their education and training. Probably, this is the reason for the rise in inequality and difficulties in social mobility.

Figure 3.18. Participation in Further Education and Training by Level of Formal Education, 2015 (%)

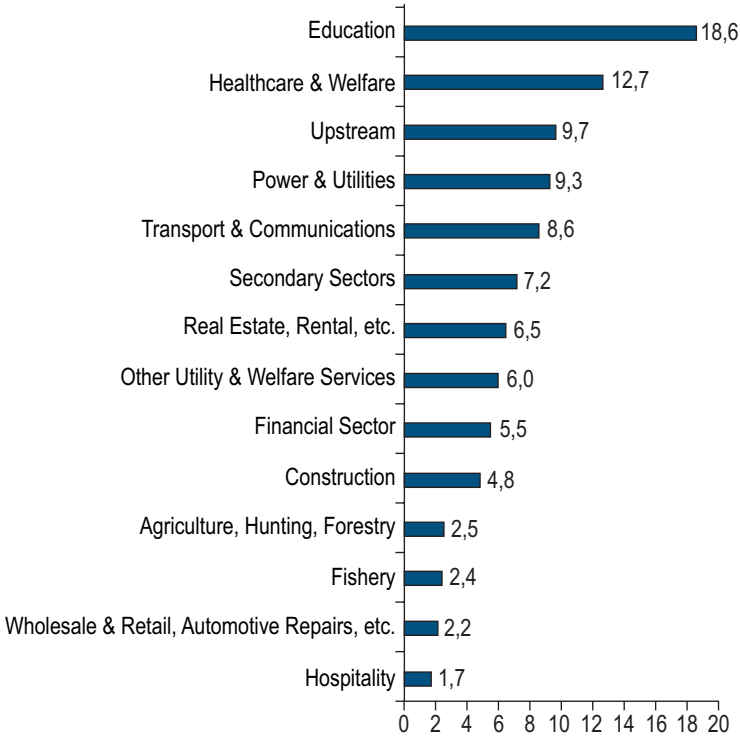


The types of programs implemented differ by sector. The programs of continuing learning and development are the most in de-

[40] Federalnoe statisticheskoe nablyudenie uchastiya naseleniya v nepreryvnom obrazovanii po resultatam vyborochnogo obsledovaniya naseleniya v 2015 (forma No. 1-NO). Vol. I / Rosstat. M., 2016.

mand in the fields of education, healthcare, and the provision of social services. It is ensured by the internal statutory regulations of sectors that require the completion of the corresponding programs (Fig. 3.19). The level of involvement in continuing learning and development is also high in sectors related to the use of high-tech and hazardous equipment. They include such sectors as mineral production, power and utilities, as well as transport and communications.

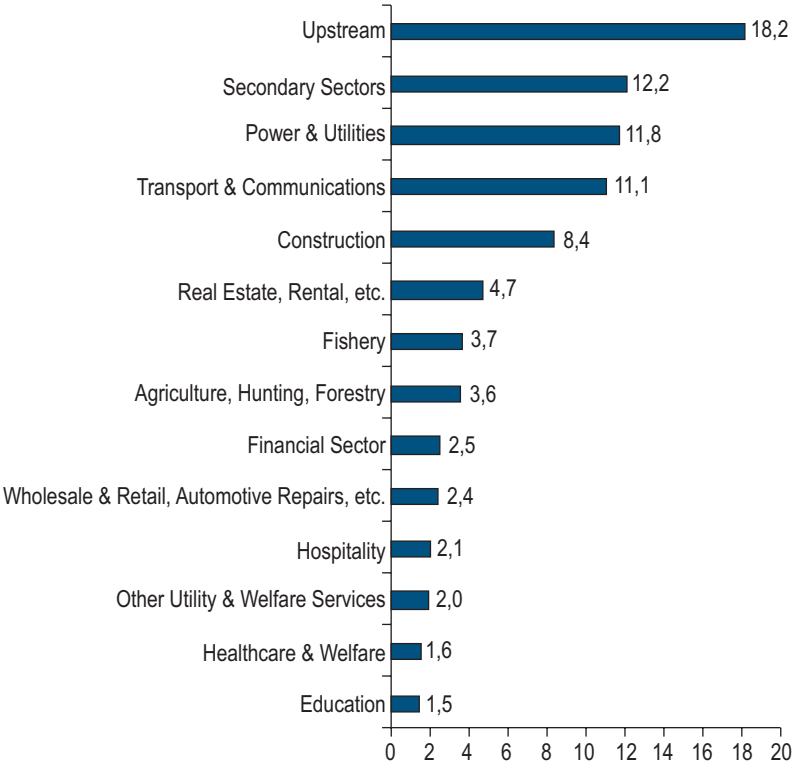
Figure 3.19. Participation in Continuing Learning and Development Opportunities by Industry, 2016 (% of Total Staff Count)



Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Vocational education and training is in demand in large industrial sectors, which employ a large number of blue-collar workers. These are mineral production, secondary industries, power and utilities, construction, as well as transport and communications (Fig. 3.20). As for the educational sphere, employees of kindergartens undergo professional development, and nurses are trained in the sphere of health and social services.

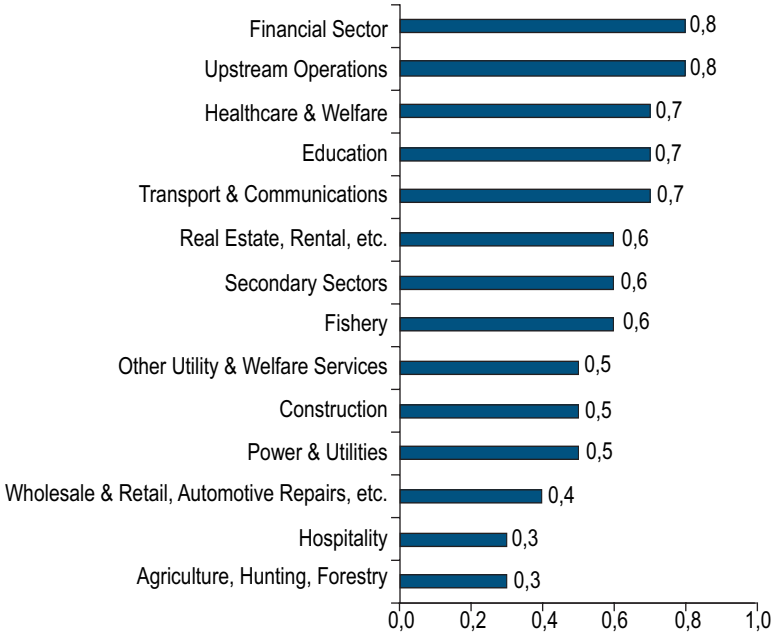
Figure 3.20. Participation in Vocational Education and Training Opportunities by Industry, 2016 (% of Total Staff Count)



Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Basic professional educational programs require a significant resource of time, and this indicator is largely formed due to young employees under 30, who often combine work and studies (Fig. 3.21). Education of the subsequent degree is more expensive than continuing learning and development. Higher-paid employees of the financial sector and mineral production and processing sector receive it more often.

Figure 3.21. Participation in Formal (Degree-Awarding) Education Opportunities by Industry, 2016 (% of Total Staff Count)

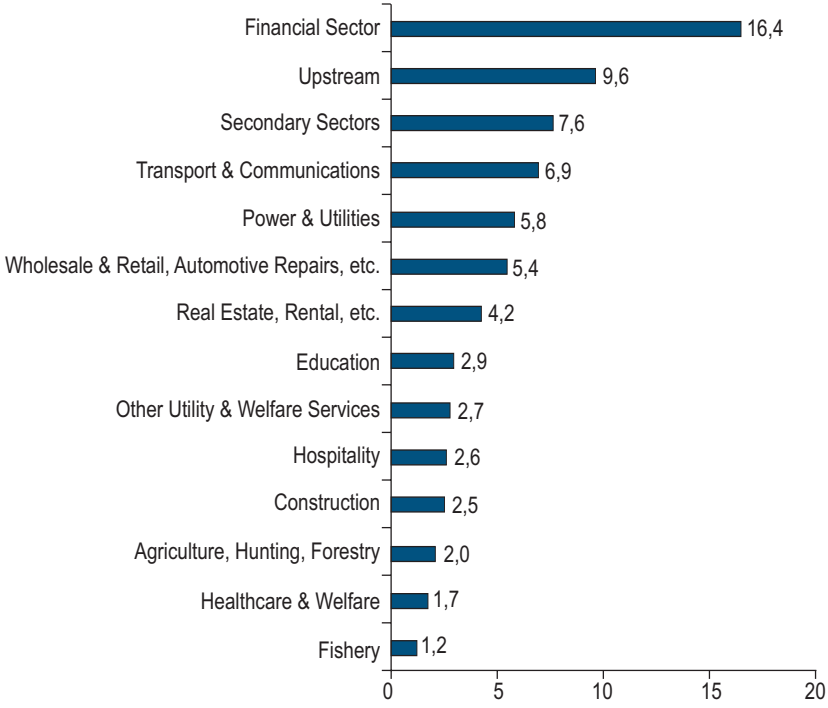


Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Workers in the sphere of financial activity especially actively attend short-term courses and professional trainings — three times more than the average value for all sectors as a whole (Fig. 3.22).

Currently, the market for short-term courses and professional trainings is focused on working with soft skills — trainings on motivation, leadership, management, teamwork, time management, presentations, sales, and personal development. These qualities are more in demand in office work. As for the technically oriented industries such as mineral production and processing, short-term courses and trainings also cover mainly managers and senior specialists, while the proportion of workers in these types of educational programs is about 6%.

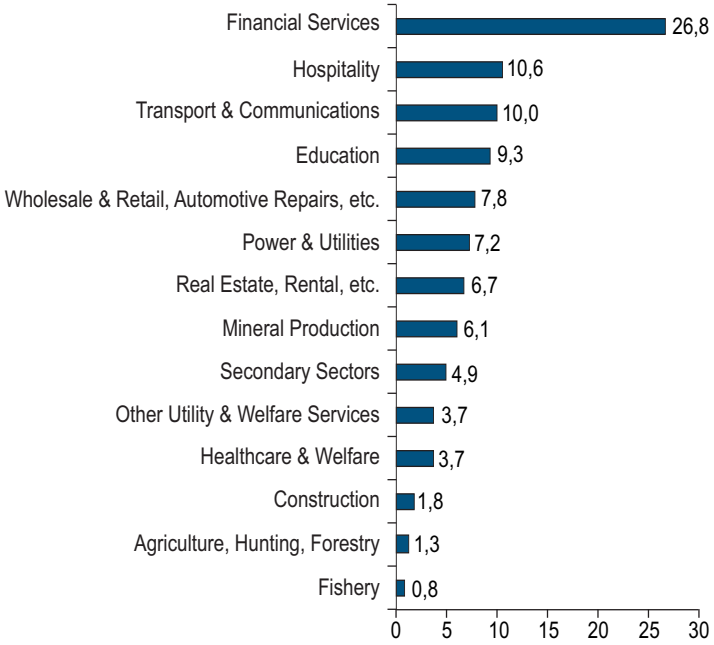
Figure 3.22. Participation in Short-Term Corporate Learning and Development (Fast-Track Courses, One-Off Training Sessions, Mentoring, etc.) by Industry, 2016 (% of Total Staff Count)



Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Distance learning is one of the most relevant and promising areas of development. However, existing technological solutions cannot always lead to the acquisition of practical skills. The national average of the employees who completed distance learning courses was only 7.5% in 2016. The specialists in the financial sector use computer remote technologies most actively (two times more than in other sectors), since such technologies form the basis of the very professional activity for all levels of personnel. The smallest number of workers received training with the use of distance learning methods in sectors where physical labor prevails. These are agriculture, hunting and forestry, fishery, and construction (Fig. 3.23).

Figure 3.23. Participation in Opportunities of Distance Continuing Education, 2016 (% of Total Staff Count)



Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Analyzing the rate of adults trained with the use of distance learning technologies, it should be noted that the possibilities of this type of education have not yet received mass recognition, and its dynamics in 2010–2016 was not positive (2010 — 8.5%, 2013 — 7.7%).

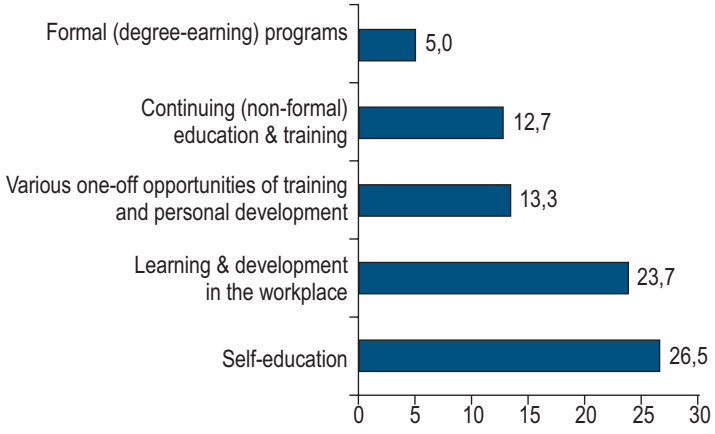
In our opinion, the current trend is associated with the following points.

First, adults do not have the skills to use widespread online courses for professional development and reskilling.

Second, employees do not see a cause-and-effect relationship between received further training and career advancement.

Third, there is no developed and transparent system of certification and recognition of qualifications obtained online. Data from a 2015 survey of the population aged 25 to 64 showed that self-education is the most common form of continuing education (Fig. 3.24).[41]

Figure 3.24. Participation in Adult Learning and Development by Type of Opportunities Pursued, 2016 (%)



[41] Federalnoe statisticheskoe nablyudenie uchastiya naseleniya v nepreryvnom obrazovanii po resultatam vyborochnogo obsledovaniya naseleniya v 2015 (forma No. 1-NO). Vol. I / Rosstat. M., 2016.

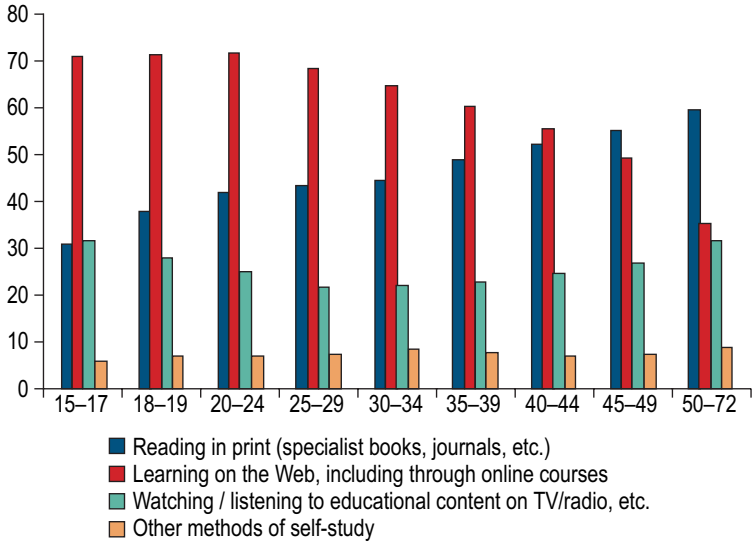
A person involves himself in self-education in accordance with his current needs, depending on the goals set by him independently. As a result, the individual gains a sense of self-confidence and the ability to find approaches to solving any problems that arise in the process of his professional, public, and private life.

Our analysis of statistical data shows that online courses and the Internet are in general key tools for self-education. However, it is most popular among the population aged 15 to 29 years (Fig. 3.25). Older people (under 50) also use online resources, but on a par with radio and television programs. With age, interest in self-education involving Internet resources decreases, while the use of printed materials for this purpose almost doubles and becomes the main method for 50–72-year-olds. The choice of methods of self-education through watching or listening to educational programs on television and radio or through training with the use of audio and video recordings has a polar dynamic. In our opinion, it is explained by the amount of free time the user has. During the teen and older years, people have large reserves of free time, and, accordingly, they can afford various ways of self-education, including television programs. The age of 25 to 40 years is a period of life with the greatest involvement in professional work activities. As a result, it is characterized by the use of the most efficient methods for self-education, and listening and watching educational programs cannot be attributed to them.

Given these considerations, one can argue that it is necessary to promote educational programs with the use of online courses for the development of self-education among young people. The expansion of these technologies among older people is likely to require significant additional efforts.

The scale of self-education of workers of various categories differs (Fig. 3.26). The greatest needs and the best opportunities for self-education are observed among specialists of the highest qualification level (up to 50%). The heads of government and municipal authorities and specialists of the middle qualification level follow

Figure 3.25. Main Strategies of Self-Directed Learning Across Age Groups, 2016 (%)



Source: Federalnoe statisticheskoe nablyudenie uchastiya naseleniya v nepreryvnom obrazovanii po resultatam vyborochnogo obsledovaniya naseleniya v 2015 (forma No. 1-NO). Vol. I / Rosstat. M., 2016.

them. The group with minimal participation in self-education (14–16%) includes routine workers (operators, equipment operators, enginemen) and skilled agricultural workers. Low-skilled workers close the group.

Summing up the consideration of the participation of adult citizens in learning and education, we will note that the structure of continuing education programs reflects trends in the real sector of the economy.

The smallest coverage for all types of educational programs is observed in sectors related to physical, manual, and low-skilled labor, such as fishery, fish farming, agriculture, hunting, and forestry.

Figure 3.26. Participation of Employees Aged Between 25 and 64 in Self-Propelled Learning Across Qualification Groups, 2015 (% of Total Employees of Given Group)

Source: Federalnoe statisticheskoe nablyudenie uchastiya naseleniya v nepreryvnom obrazovanii po resultatam vyborochnogo obsledovaniya naseleniya v 2015 (forma No. 1-NO). Vol. I / Rosstat. M., 2016.

Of particular concern is the low level of training of employees of enterprises in the field of trade and services in the following areas — wholesale and retail trade, repair of household goods and personal items, as well as hospitality. The training of working personnel of government organizations of education and healthcare is at a low level.

Currently, the most demanded is updating of specific job skills in sectors with increased requirements for technical safety and ensuring the life and health of people. These sectors include medicine, education, mineral production and mineral extraction, as well as generation and distribution of electric power. Reskilling is also popular

in technological sectors with an established sustainable culture of corporate training (finance, oil and gas industry).

The scale of adult education decreases with age, the level of educational background, and the rank held at the enterprise, which affects the decline in wages, as well as social and labor involvement of this population cohort. Meanwhile, the most accessible forms of learning on the job cannot be taken into account in the process of obtaining new levels of education because of the lack of administrative procedures nowadays.

Growth points for increasing the coverage of the population with educational programs can include short-term educational courses, distance learning technologies (including using the best and popular online courses), as well as self-education and mutual learning, combined with the development of a system for recognizing the results of these types of education. However, it should be borne in mind that mass adoption of online courses in teaching older people may require significant efforts.

In general, the upward trend of changes in the participation of the adult population in education and training, as well as the availability of adequate statistical tools for studying the situation, create the basis for formulating measures to develop this branch of education both in the regions and in the Russian Federation as a whole.

3.4. Motives, Obstacles, and Incentives for Adults to Participate in Continuing Education

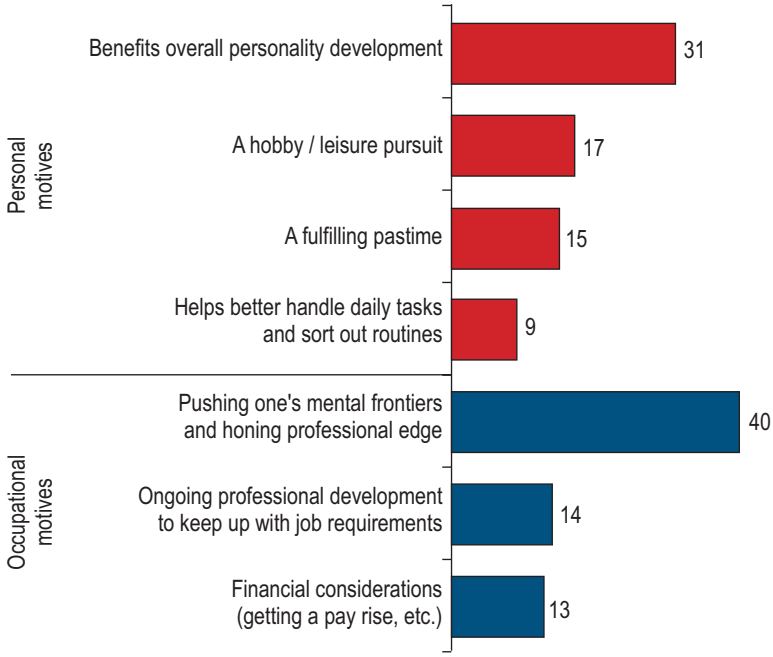
Among the motives that goad adults into participating in continuing education, one can single out two groups — occupational and personal motives.

According to the PIAAC survey[42], job-related need is the head motive for the participation in adult continuing education in OECD

[42] *Desjardins R.* Participation in adult education opportunities: Evidence from PIAAC and policy trends in selected countries. Background paper pre-

countries. The results of the Monitoring of the Economics of Education[43], conducted by the National Research University Higher School of Economics, also show that **occupational motives** are the head ones — 65% of participants in continuing education call them so (Fig. 3.27).

Figure 3.27. Key Motives Why Russian Adults Participate in Further Education and Training (%)



The respondents associate their participation in adult education with an occupational reason (the desire to keep their current jobs

pared for the Education for All Global Monitoring Report 2015. Education for All 2000–2015: achievements and challenges. <http://unesdoc.unesco.org/images/0023/002323/232396e.pdf>.

[43] *Bondarenko N.V.* Stanovleniye v Rossii…

and achieve success there), and not with the need to increase their mobility in the labor market (to change jobs or occupations, find new earnings, etc.). Among occupational motives, the most popular is the desire of respondents to improve their knowledge and skills in their current professional activities (for almost 40% of those who participated in adult education in 2016). For 14% of the respondents, the reason for participating in adult education laid in a need for regular professional development in accordance with regulatory or corporate requirements. 13% of those who participated in adult education were guided by financial incentives (to increase wages).

Employers play a crucial role in promoting occupational training for adults. They organize the production process based on market conditions and their entrepreneurial initiative. Therefore, they constantly use on-the-job training as a means of transferring a wide variety of technologies and skills to personnel that performs operations to create new value.

A share of expenses for occupational training is included in labor costs. Both European and Russian employers usually pay two thirds of all expenses for these purposes.[44] More than 80% of further training programs paid by employers are aimed at enhancing the skills of personnel in their major occupation. Almost 52% of the continuing education programs paid by an employee are related to the acquisition of a new specialty occupation.

In that event, the European Continuous Vocational Education and Training Survey (CVTS)[45] measures the proportion of enterprises providing training. In 2015, this rate was about 73% of all enterprises in the EU countries. In Denmark, Austria, Sweden, and the Czech Republic, it was about 90%, and a 99% rate was recorded

---

[44] *Gimpelson V., Kapelyushnikov R., Roshchin S.* Rossiyskiy rynok truda..., p. 120–128. <http://csr.ru/wp-content/uploads/2017/03/Doklad_trud.pdf>.

[45] Eurostat. <http://ec.europa.eu/eurostat/statistics-explained/index.php/Vocational_education_and _ training_statistics>.

in Norway.[46] The lowest average rate of companies' participation in training their employees (63%) was in Russian enterprises.[47]

Researches by S. Roshchin and P. Travkin show a range of reasons restraining employers in personnel training. The main ones are as follows.[48]

First, a relatively high level of mobility of Russian workers and employment legislation increases the risk of losing investment in personnel.

Second, the growing number of college-educated employees reduces the need for basic vocational education and training.

Third, employers are unable to calculate exactly how much profit investments in education can bring, and therefore subjectively tend to understate them.

Fourth, highly qualified employees are not needed by enterprises that have a low technology level of production. Moreover, many Russian firms (even with a good financial status) do not provide for technology upgrading because of their very short horizon of strategic planning. For this reason, these enterprises have no incentive to train their employees to use new technologies.

Further, the researchers made the following conclusions based on statistical data.

1. Low technology level of production has a negative impact on both the frequency and the intensity of training. Enterprises that use outdated technology do not see the reasons to invest in training their employees to use new technologies.

---

[46] <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_cvt_01s&lang=en>.

[47] *Bondarenko N.V.* Masshtaby i mekhanizmy obucheniya rabotnikov kompaniyami // Monitoring ekonomiki obrazovaniya. Informatsionno-analiticheskiye materialy po rezultatam sotsiologicheskikh obsledovaniy. M.: HSE Univ., 2016. No. 2 (28).

[48] *Roshchin S., Travkin P.* Determinants of on-the-job training in enterprises: The Russian case // European Journal of Training and Development. 2017. Vol. 41. No. 9. P. 758–775. <https://doi.org/10.1108/EJTD-05-2017-0050>.

2. Employee training prevalently takes place in innovation-oriented and developing companies that make high demands on the level of team competency.

3. Competition has a negative impact on on-the-job training. The lower the competition in the product market, the more intensive the on-the-job training is.[49] This is true except for cases where high competition encourages large enterprises to train employees in order to maintain their position in the market. However, companies retrain only a small fraction of the most qualified managers in this situation.

4. The size of the enterprise is one of the factors for increasing coverage — the larger it is, the higher the level of training in the workplace.

5. The high percentage of older workers has an adverse effect on the scope of training.

6. Since the employer's benefit lies in the appropriation of the surplus product obtained through the greater increase in labor productivity after the employee's training (compared to the increase in his wages after this training), employers prefer to invest in the training of the most educable young employees.

7. A large proportion of college-educated personnel leads to an increase in the competence level.

8. The high staff turnover at the enterprise translates into the low motivation of the employer to invest in the development of human capital. If an employee has been working at an enterprise for more than three years, then the employer is more willing to invest in his further training and development. Employers often prefer to simply "buy up" a trained employee by offering him higher wages in the labor market and thereby saving on these costs.

---

[49] *Görlitz K., Stiebale J.* The impact of product market competition on employers' training investments: evidence from German establishment panel data // Economist. 2011. Vol. 159. No. 1. P. 1–23.

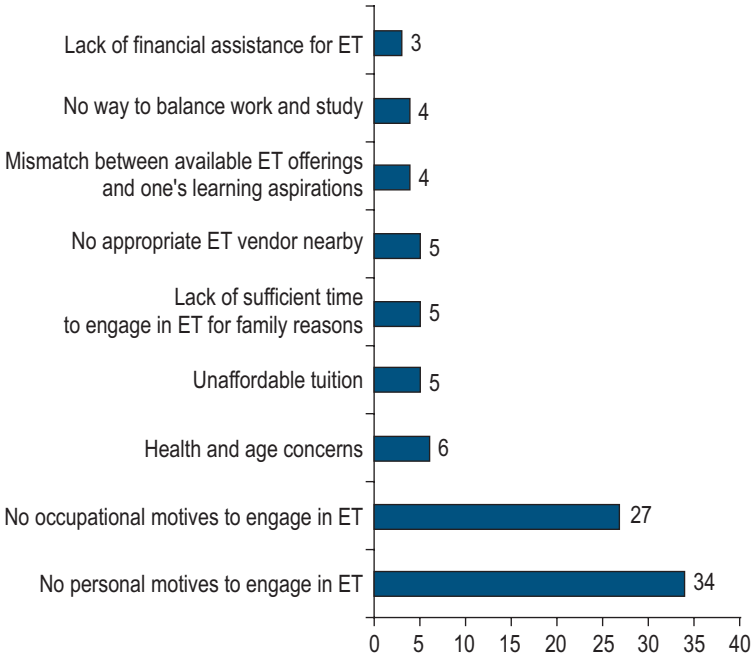
9. The expected population decrease in Russia, combined with technological transformation and the displacement of routine operations, will lead to an increase in the demand for highly skilled personnel and an increase in the demand for on-the-job training.

For about 45% of people, participation in adult education is associated with personal interest outside of work (Fig. 3.27). As for older people (from 55 years and over), learning out of personal interest (as a hobby or for organizing their leisure) is more typical — for up to 55% of respondents in this group. The data show that in Sweden, the Netherlands and Finland, the ratio of occupational and personal motives to participate in adult education is almost the same. Personal motives prevail in Korea, Estonia and Spain, but the total number of trained citizens is less than in the Scandinavian countries.

As the **main reason for non-participation** in formal and continuing education, Russian respondents indicated the absence of a formed need for the acquisition of additional knowledge and skills in connection with work and professional interests, as well as for general development. It was the explanation for the passive behavior of 57% of respondents who did not participate in formal or continuing education in the last 12 months (that is, 48% of surveyed people) (Fig. 3.28).

A significant proportion of the surveyed respondents generally found it difficult to choose an answer. It should be mentioned that the lack of interest and need has become a key factor for non-participation of the adult population in formal or continuing education, regardless of age, level of education, and employment status. For those respondents who still have a need for education or training, time constraints become the principal barriers to participation (namely, difficulties in combining work with study, family obligations, and lack of opportunities for training nearby). These factors were named by 14% of respondents who did not participate in formal or continuing education in the last 12 months. Beyond that, 9% of respondents who did not participate in formal or continuing education could not undergo training because of financial constraints (high cost of training for the family budget, as well as lack of financial support from

Figure 3.28. Key Reasons That Preclude Russians Between Ages 25 and 64 from Participating in Further Education and Training (Trailing Twelve Months), 2016 (%)

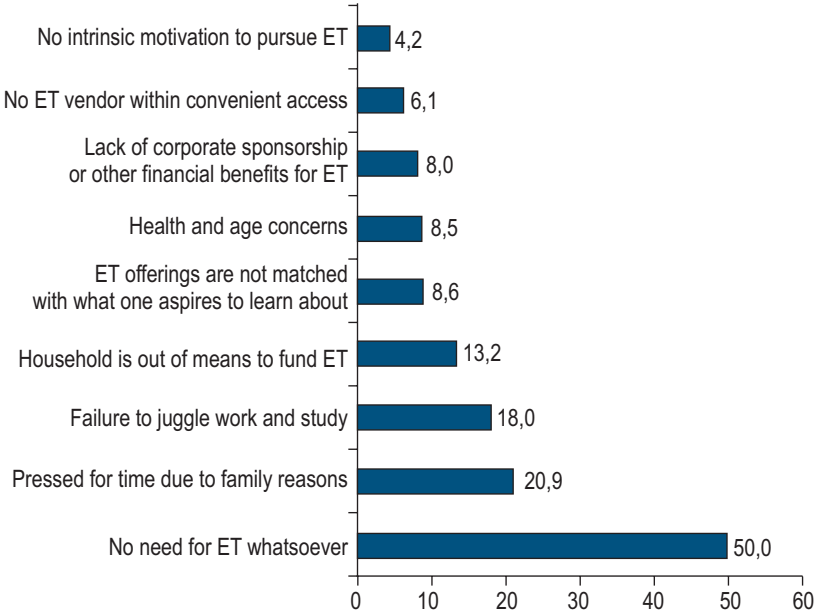


Source: Bondarenko N.V. Stanovlenie v Rossii nepreryvnogo obrazovaniya: analiz na osnove rezultatov obshcherossiyskikh oprosov vzroslogo naseleniya strany // Monitoring ekonomiki obrazovaniya. Informatsionnyi byulleten. M.: HSE Univ., 2017. No. 5 (104).

the employer and the government). The lack of supply of educational services was mentioned rather rarely — only 4% of respondents who did not participate in formal or vocational education chose such an option.

As for the countries of the European Union, respondents also note the lack of need or time due to family responsibilities and conflict with the work schedule as the main reasons for non-participation in adult education (Fig. 3.29).

Figure 3.29. Key Reasons Why Adults in EU Nations Fail to Participate in Further Education and Training (%)



Source: <http://ec.europa.eu/eurostat/statistics-explained/index.php_File: Participation_rate_in_education_and_training,_2011_(%C2%B9)_(%25)_YB16.png>.

Thus, key reasons for the non-participation of grown-ups in adult education generally include unformed exigencies and the lack of a conscious need for further training. Occupational motives for participation in adult education serve as an internal driving factor in the development of economic well-being. However, not all Russian industries achieve the appropriate scope of adult education. Personal interests of participation in adult education make it possible to satisfy the desire to broaden the outlook and erudition and to raise the general cultural level, but they are still extremely inactive because of the lack of an appropriate system for their support.

3.5. What Place to Choose for Learning: Educational Organizations for Adults

A whole network of educational organizations carries out training under programs of continuing learning and development and professional training. It includes government and private educational organizations of higher and secondary vocational education, as well as organizations of continuing learning and development and the corporate educational sector.

Depending on the goals and nature of acquired skills, adults can choose the following institutional models of education and training.

An adult education center on an SVE basis (for CLD and/or vocational education and training) guarantees the acquisition of specific job skills (most often in a blue-collar job or specialty). Beyond that, it guarantees entry into the labor market in the form of employment in a quite large industrial company or a small enterprise in the consumer service, city service, tourism, and other sectors.

The faculty (institute, center, specialized department) of continuing learning and development based at a university, an industry-specific research institute, or an institute of the Russian Academy of Sciences will provide vocational education and training and the acquisition of a high-tech job skill or a new competence, promotion or even a change in career path.

An enterprise-based training center (or a corporate university for representatives of one sector) is likely to become a source of new high-tech but highly specialized competences and skills. Beyond that, it will provide the development of staff within their main organization or sector.

Independent CLD organizations and training centers, whose programs can combine different forms of training, are efficient for mastering a fundamentally new and demanded skill in a new segment of the labor market. Acquiring it often becomes a reason to change jobs and career paths.

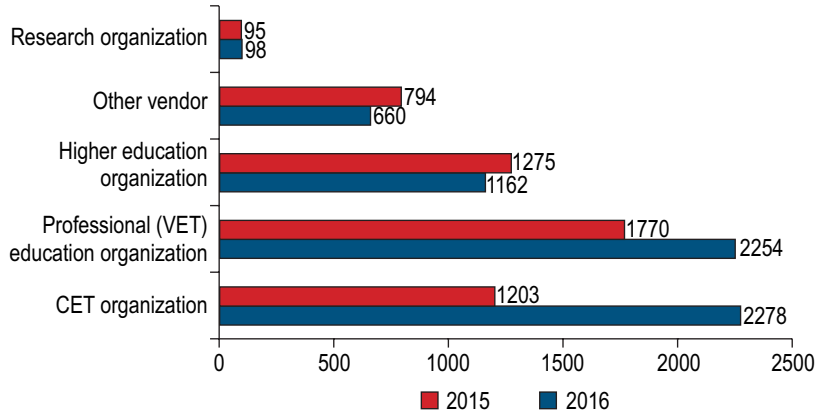
One can note the following organizations that are not included in the education system. These are educational organizations of the Russian Society "Knowledge" and the Russian Geographical Society, historical and patriotic clubs, as well as libraries and cultural, educational, and leisure centers. Club formations contribute not only to the emergence of important everyday skills, new activities and hobbies, but also to friendly communication, mutual learning, and motivated self-improvement.

However, in all cases, educational organizations (or departments) of continuing education are centers that not only independently own exclusive competences, but also have information about their sources, teachers, specialists, and experts. These organizations involve them for the transfer of technologies and skills within the framework of their activities. In this context, they act as centers for the sale of educational programs and a network of competences formed in a particular professional field.

Depending on the consumer's need, such organizations can base their strategies, firstly, on the transfer of skills (job, social, personal development), and secondly, on the transfer of new technologies influencing the change in processes of the production and provision of services.

CLD organizations (2278 units, or 35.3% of all organizations under consideration in 2016) and vocational educational organizations (2254 units, or 34.9% of all considered organizations) constitute the largest share of organizations that *train through additional training programs* (Fig. 3.30) Moreover, there have been changes in the structure of organizations in the period of 2015–2016. In 2015, vocational educational organizations were the absolute leaders (34.5%), higher education organizations followed them (24.8%), and CLD organizations were only in third place (23.4%). However, in the next year, it was the CLD organizations that turned out to be the leaders, and the vocational educational organizations (although they did not increase their share significantly) took the second place. Meanwhile, higher education organizations have considerably lost their positions (in 2016, they totaled only 18% of all organizations under consider-

Figure 3.30. Composition of Russian Market for Continuing Education and Training (CET) by Type of Vendor, 2015 vs. 2016 (Number of Vendors)



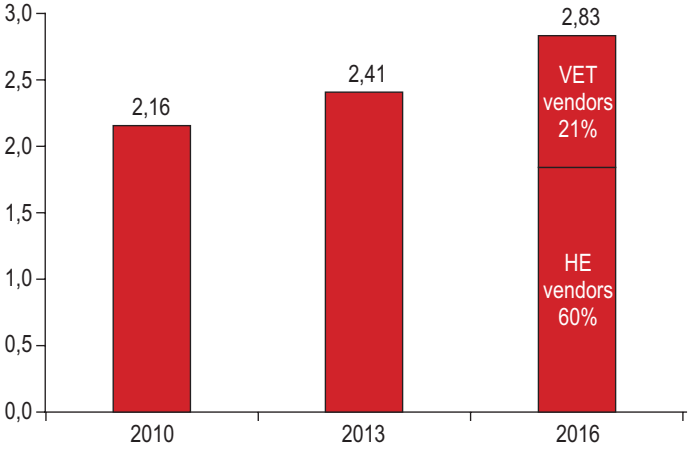
Source: Otkrytye statisticheskie dannye Minobrnauki Rossii. Svedeniya ob obuchenii v organizatsiyakh, osushchestvlyayushchikh obrazovatelnuyu deyatelnost po dopolnitelnym professionalnym programmam za 2015 i 2016 (forma No. 1-PK).

ation). The number of vocational educational organizations (SVE) implementing additional training programs is almost two times higher than the number of higher education institutions providing the corresponding services, and it tends to increase nowadays.

Concurrently, more than 3,400 higher education institutions and vocational educational organizations train 80% of all students of CLD programs and remain the key providers of education in this market. Higher education organizations cover a larger number of students (in 2016, 1.686 million people or 60%) compared to SVE (604,000 people or about 21%) (Fig. 3.31). It is noteworthy that in the United States, the percentage of CLD students who have completed their education at universities and colleges is only 18%[50].

[50] National Center for Education Statistics. Digest of Educational Statistics. Washington, DC: U.S. Department of Education, 2004. <https://nces.ed.gov/programs/digest/2004menu_tables.asp>.

Figure 3.31. Participation of Russian Adults in CET Opportunities, Between 2010 and 2016 (Millions of People)



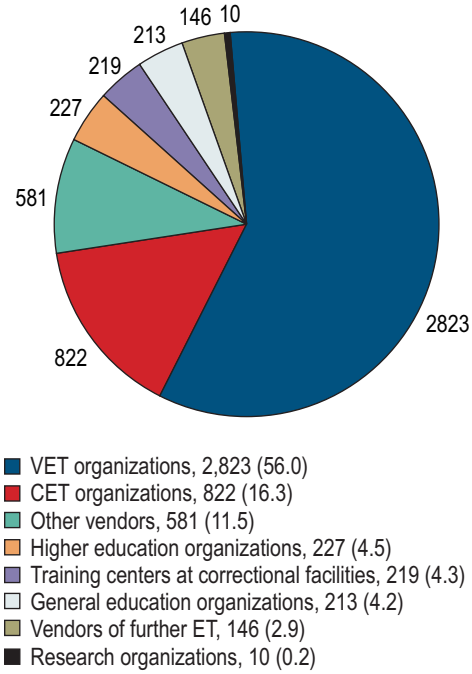
Sources: Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2010: statisticheskiy byulleten. Vol. I / Rosstat. M., 2010; Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2013: statisticheskiy byulleten. Vol. I / Rosstat. M., 2013; Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Among the organizations that carried out training through basic vocational education and training programs, vocational educational organizations were in the lead in 2016, occupying more than half of the entire market. CLD organizations were in second place. The share of higher education institutions in the sector of this type of programs was less than 5% (Fig. 3.32).

The observed increase in the number of specialized CLD and SVE organizations that implement vocational education and training and continuing learning and development programs indicates a current increase in the demand for specific skills and, thus, is one of the reasons for cranking up the total number of trained adults.

The implementation of adult education programs is characterized by the absence of **fixed staff**. Fine-tuning skills to the needs

Figure 3.32. Structure of Russian Market for Formal (Degree-Awarding) Education and Training by Type of Vendor, 2016, Expressed as a Number of Vendors (Percentage of Total Market)



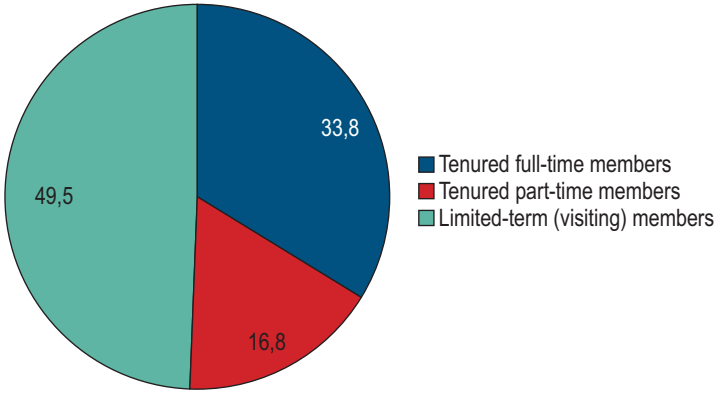
Source: Otkrytye statisticheskie dannye Minobrnauki Rossii. Svedeniya ob obuchenii v organizatsiyakh, osushchestvlyayushchikh obrazovatelnuyu deyatelnost po dopolnitelnym professionalnym programmam za 2016 (forma No. 1-PO).

of enterprises and organizations requires the involvement of a wide range of specialists from the real sector of the economy. Therefore, the staff is often formed for a specific program, which the organization has requested. Training at enterprises, including on-the-job training, is carried out directly by their employees.

According to the Ministry of Education and Science of Russia, the number of faculty members engaged in educational activities for the

implementation of additional adult training programs amounted to 152,000 people in 2016. Of these, only 33.8% were staff members of these organizations. Half of all teachers (49.5%) worked on the terms of civil contracts; the other 16.8% did it on a part-time basis (Fig. 3.33).

Figure 3.33. Structure of Faculty Who Deliver CET Programs by Type of Contract, 2016 (%)



Source: Otkrytye statisticheskie dannye Minobrnauki Rossii. Svedeniya ob obuchenii v organizatsiyakh, osushchestvlyayushchikh obrazovatelnuyu deyatelnost po dopolnitelnym professionalnym programmam za 2016. (Forma No. 1-PK).

Objectively, higher requirements are imposed on teachers dealing with additional adult education programs than on the academic staff of higher education institutions. 60% of full-time CLD teachers had an academic degree, as well as 50.6% of part-time teachers. Another 0.15% of teachers identified themselves as trainers.

3.5.1. Adult Education in the System of Secondary Vocational Education

Vocational education organizations are the market leaders among organizations offering vocational education and training and continuing learning and development programs for adults. This system of

organizations includes about 1800 institutions, which can be divided according to the sectors where they implement educational programs.

In terms of sectoral specialty, multidisciplinary technical schools and colleges prevail among these educational organizations. They make up almost a third of all professional vocational education organizations (Fig. 3.34). At the same time, medical institutions lead in terms of the total number of trained adults. They are followed by multidisciplinary, architectural and construction, pedagogical, transport, and other educational organizations (Fig. 3.35).

Not all SVE organizations are active in implementing programs for adult training and education. On average, only 16% of institutions in each sector demonstrate successful strategies with more

Figure 3.34. How Educational Organizations that Are CET Vendors Are Distributed by Industry (%)

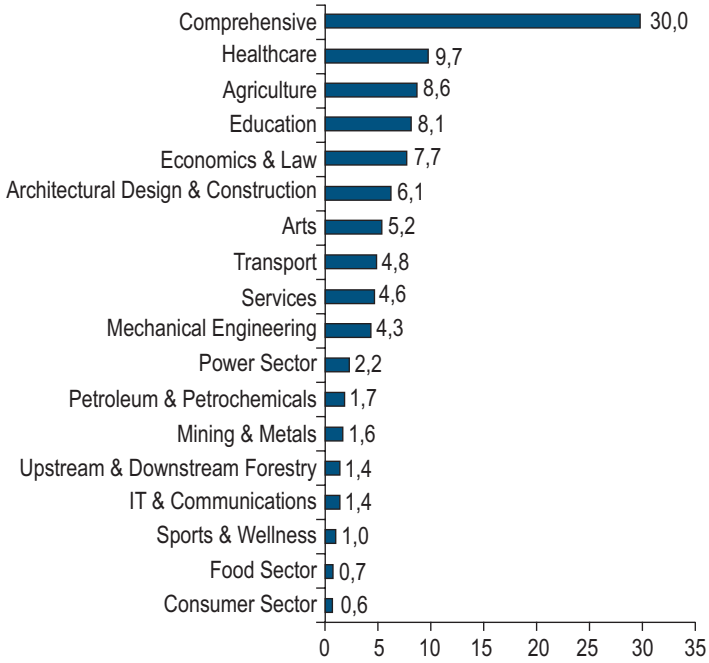
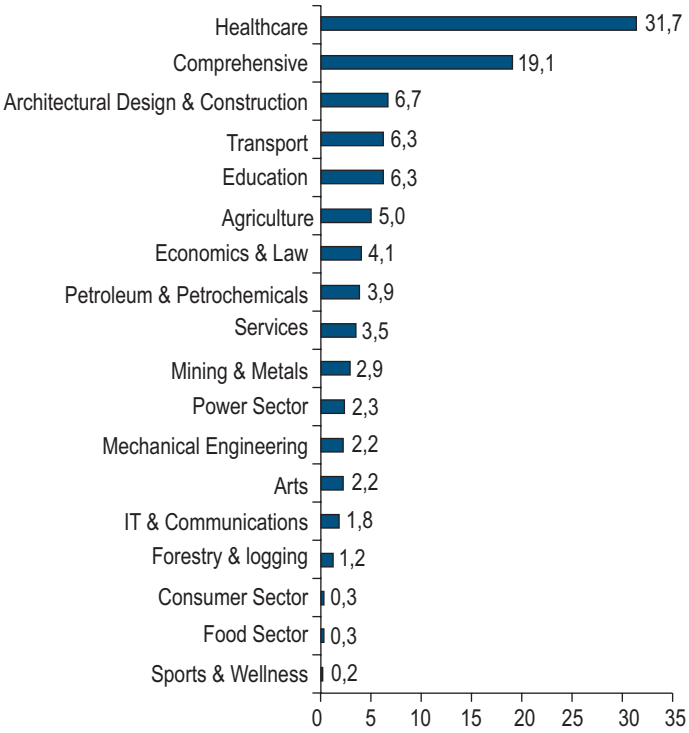


Figure 3.35. Industry Structure of Enrollment in CET Programs at Vocational Schools (%)



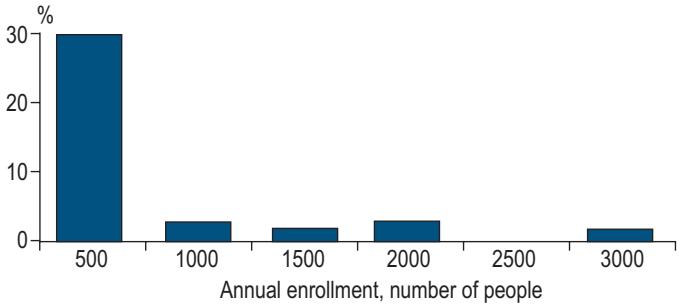
than 500 adult trainees per year (the average quota of a Russian college in terms of basic vocational education programs). Most educational organizations train less than 500 students annually.

For comparison, 2.6 million Americans (25 years old and over) were enrolled in continuing learning and development programs at two-year municipal colleges in 2001, and it amounted to 44% of the total number of applicants to these educational institutions.[51]

[51] National Center for Education Statistics. Digest of Educational Statistics. Washington, DC: U.S. Department of Education, 2004. <https://nces.ed.gov/programs/digest/2004menu_tables.asp>.

Figure 3.36 shows an example of the distribution of the number of adults trained by organizations in the architecture and construction sector. The nature of this distribution practically does not depend on the sector in question and generally reflects the level of the existing management of colleges in the field of continuing learning and development.

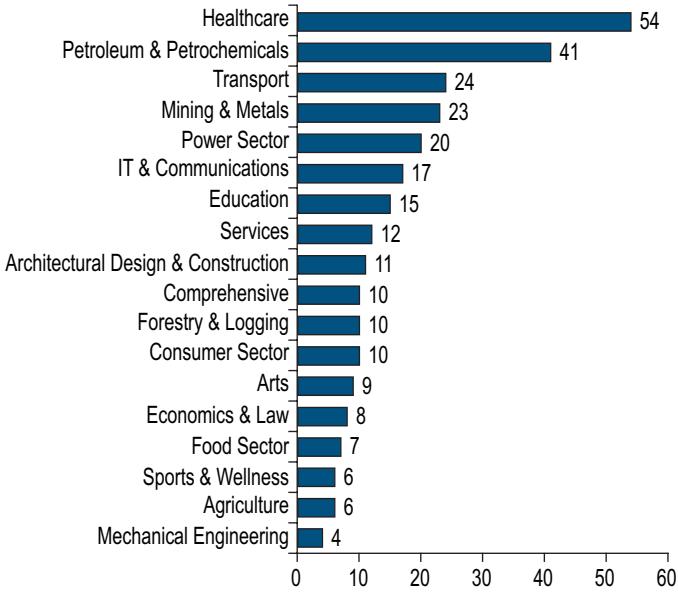
Figure 3.36. How CET Vendors in "Architectural Design and Construction" Segment Are Distributed by Annual Enrollment



Successful vocational education organizations can be identified in each sector (where more than 500 people have undergone continuing learning and development programs), and their proportion in the total number of sectoral institutions can be calculated (Fig. 3.37). The strategies of institutions with a high number of students are most easily formed in such sectors as medicine, oil and gas production and refinery processing, transport, mineral production and metallurgical industry, electrical engineering and communications, pedagogy, service sector, as well as architecture and construction.

A study of public information posted on college websites showed that the specificity of additional training programs normally coincides with the specificity of the institution. Successful educational organizations do not seek to open secondary programs, where they do not have sufficient professional competences and popularity

Figure 3.37. How VET Organizations That Annually Enroll Over 500 CET Students Are Distributed by Industry (%)



among employers who can provide an influx of people wishing to improve their qualifications or undergo retraining.

The number of vocational education organizations that have formed a successful strategy in the fields of mechanical engineering, economics and jurisprudence, remains low. Interestingly, the versatility of SVE organizations is also not a factor that has a positive effect on the volume of training through vocational educational programs.

Anchor strategic industrial partner enterprises are of great importance for the development of adult education and training programs, including continuing learning and development. On their websites, most educational organizations declare the presence of employers that provide the dominant stream of trainees through such educational programs. It is more common in those institutions

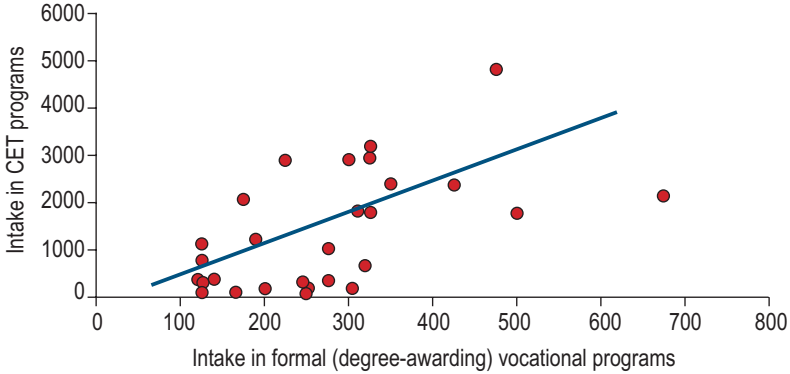
where they have already created (with the direct participation of the employer) resource centers equipped with the necessary production equipment (centers of applied qualifications). "Anchor" employers have a strong culture of corporate training, especially in medicine, pedagogy, transport, oil and gas production and refinery processing, mineral production and metallurgical industry, electrical engineering and energy production, informatics and communications, and services. The culture of training and reskilling of staff in these institutions is largely transmitted to the partner educational institution. At the same time, a single founder can be the organizer of training (as in medical and teacher training colleges).

Such interaction of a college or technical school with an employer (enterprise, corporation, bank, etc.) often takes the form of a public-private partnership. That is, the participants conclude contracts for the provision of educational services for the targeted reskilling of enterprise employees.

The training center for vocational qualifications of the SEI SVE of the Yamalo-Nenets Autonomous Okrug Novy Urengoy Multidisciplinary College has repeatedly won tenders for training employees of several monotown enterprises (Gazprom Dobycha Yamburg, PAO Gazprom Podzemremont Urengoy, Gazprom ZPKT, ZAO Achimgaz, Gazprom NGHK), as well as by order of the Job Center.

In general, one can note a correlation between admission under the principal educational programs of SVE and the number of those who have completed training under CLD programs (Fig. 3.38). On the one hand, institutions with a large quota of students have more resource opportunities and a greater number of suitable teachers involved in deployed CLD programs. On the other hand, senior students are more likely to undergo additional programs on a fee-paying basis. With the growth of the basic quota, the number of CLD students in the branches of the real sector of the economy (processing, transport, services) increases. However, this dependence is absent in the sphere of the state economy (medicine, pedagogy, art,

Figure 3.38. How Enrollment Numbers in Formal (Degree-Awarding) Programs and CET Programs Are Interrelated at Vocational Schools Across Industries (Agriculture, Transport, Petroleum and Chemicals, etc.) (Number of People)



sports), since the single founder determines the number of students within the framework of the state assignment at his own discretion.

High-tech infrastructure of the educational process is extremely important for training employees from the real sector. Therefore, a specialized sectoral resource center is a necessary part of a successful strategy that provides a high volume of students under additional programs. One can also note a center for vocational qualifications, supported in terms of material equipment within the framework of industrial partnerships, as well as federal and regional subsidies for the modernization of SVE institutions. Three-quarters of all successful institutions in terms of additional programs had a resource center or a center for vocational qualifications that was well-represented on the institution's website. As for successful educational organizations in the sectors of agriculture and light industry, such specialized centers may be absent since small and medium-sized enterprises are employers. The joint material and technical equipment of the training center may be institutionally complicated.

Concerning successfully implemented CLD strategies, the presence of a WorldSkills system of preparation and participation in

events (for example, a specialized competence center) is typical for the service sector, medical, teacher training, economic and legal colleges, as well as for the mechanical engineering and forestry sectors (to a lesser extent). Information about participation in this movement turns out to be insignificant for attracting CLD students, if we consider the fields of oil and gas production and refinery processing, agriculture, informatics and communications.

Wide range of programs offered in respect to the institution's specificity is directly related to the number of students attracted and the income of the organization. In successful SVE institutions, the offer ranges from 30 to 100 programs. At the same time, it is not about the number of programs in general but about how fully these programs cover the training needs of personnel in the specialized industry of "anchor" employers.

It should be noted that the content of CLD programs in vocational education organizations mainly affects specific job skills and qualifications. In colleges, one can rarely see programs on entrepreneurship, technologies for increasing labor productivity (quality management, lean production, etc.), occupational guidance and career planning, and 21st century skills (communication, cooperation, problem solving, and creative thinking). Beyond that, there is no systematic training with respect to new types of literacy (digital, regulatory, financial, and environmental), and there are no educating programs, club formations, and co-education programs. Gradually developing demand for the listed types of programs undoubtedly opens up new niches for the development of adult education and training in SVE institutions.

An analysis of the websites of the surveyed educational organizations shows that institutions generally do not pay enough attention to this type of promotion of CLD programs. Provided that information about principal educational programs should be presented in an established format, it is difficult to obtain information about the content, cost and issued training certificates even in successful colleges. Easily accessible and transparent information about courses, their cost, and conditions of implementation is

the most accessible in sectors where numerous small businesses (services, economics, transport, etc.) are the customers of the programs. When small and medium-sized enterprises are the consumers of CLD programs, the website of the educational organization will have to be developed especially carefully.

Revenues from continuing education and training programs for adults in the system of secondary vocational organizations can be of significant importance in the overall consolidated budget of a professional education organization. As the analysis of open sources on the financial and economic activities of SVE organizations shows, an educational organization can receive more than a quarter of the overall income from CLD programs in the oil and gas production and refinery processing (39%), medicine (35%), electrical engineering and energy production (35%), economics and law (29%), informatics and communications (25%) (Fig. 3.39).[52] In this case, the financial wellness of institutions is determined by the prevailing sectoral culture of personnel reskilling, high technological level of development, security risks, and population's expectations from the reward for education in a certain sector.

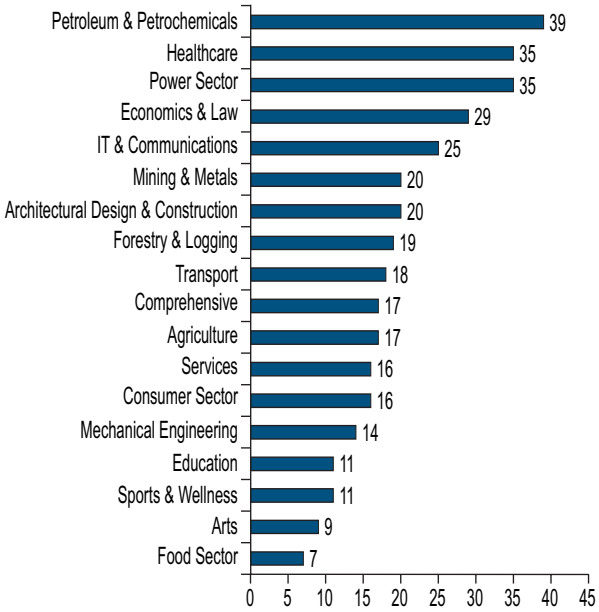
Educational institutions in industries serving small and medium-sized enterprises achieve less performance (services, food and light industries). So far, enterprises in these industries do not consider upskilling of employees an efficient instrument for improving service quality and labor productivity and achieving economic growth.

As for the majority of SVE institutions providing training under educational programs for the manufacturing sectors, the fraction of income from adult education and training is 15–20%.

The management of CLD departments of technical schools and colleges strives to provide a distinct contribution against the general background of the revenues of the organization's employees. There-

[52] When analyzing revenues from educational activities for adult training, incomes from programs of continuing learning and development and vocational education and training were not divided.

Figure 3.39. Proportion of CET Receipts in Total Revenue of Vocational Schools Across Industries (%)



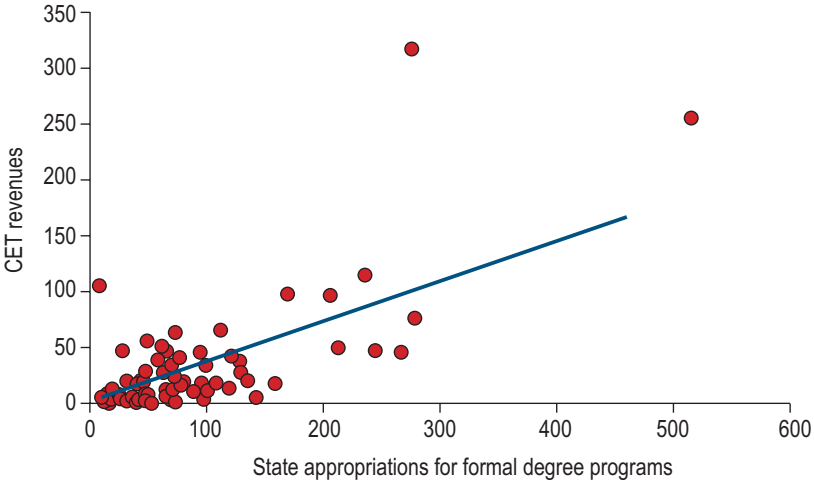
fore, the set and cost of programs are determined so that they receive income proportional to the total turnover of the institution. On average, the fraction of income for colleges with successful strategies for the implementation of additional education programs for vocational education and training is 23%.

The principal income of the organization is achieved through the number of trainees attracted and not the cost of programs, which depends on the duration of the program, sectoral specificity, and region. For example, in medical colleges, the cost of reskilling for dentists can reach 30,000 rubles. Beyond that, the cost of similar programs will be higher in Moscow than in the regions. However, the cost of CLD programs, due to which the principal income is achieved in successful educational institutions, is not high and averages from

5 to 10 thousand rubles. It corresponds to the amount that an adult worker is ready to spend on undergoing an educational program.

The volume of services provided by institutions for education and training of adults is interconnected with the size of the state assignment for the implementation of basic professional educational programs (Fig. 3.40). This situation derives from an increase in the overall financial and logistic potential of the institution, more advanced material and technical resources, the number of proactive managers and teachers who are ready to develop adult education as an additional entrepreneurial project. It is also a consequence of the correlation of admission under principal educational programs and CLD programs (Fig. 3.38). However, at the same time, industry-specific features no longer manifest themselves as noticeably as it happens when comparing the absolute number of students and trainees — there is a pronounced linear dependence for all sectors (Fig. 3.40).

Figure 3.40. How Proceeds from CET Are Related to Volumes of Public Funding for Formal (Degree-Earning) Educational Programs (Millions of Rubles)



Analysis of the available data makes it possible to identify the components of a successful strategy of professional educational organizations for training adult citizens.

— Target group of consumers of educational organization's services. Profitable sectors for the implementation of CLD programs include medicine, oil and gas production and refinery processing, transport, mineral production and metallurgical industry, electrical engineering and communications, pedagogy, services, as well as architecture and construction.

— Flexible tuning of the proposed programs in accordance with the needs of the specialized sector. This tuning provides for close interaction with strategic sectoral employers, their participation in the implementation of programs, as well as a professional specialization. The latter makes it possible not only to gain attention and recognition in the market, but also to repeatedly train and retrain employees for the sector, improving and customizing material equipment to meet the needs of the relevant enterprise group.

— High level of technological support of the educational process. For instance, it is achieved by using the equipment of the resource center, created within the framework of federal and regional programs for the development of SVE in conjunction with employers.

— Increased requirements for the composition of the teaching staff in terms of practical experience acquired in the real sector of the economy.

— A certificate recognized in an industry-specific environment.

— Flexible pricing policy that takes into account the specialty/occupation and the average salary in the region and sector.

— Low level of participation in the training of the non-working population (unemployed, migrants, etc.), since the cost of their training is not high.

— Availability of a website of the resource center or the CLD department, which provides direct access to the description of the training program ("with a single click" from the main page of the site).

3.5.2. Adult Education in the System of Higher Education Institutions

Universities have a long history of providing adult education programs.[53] Advanced training and reskilling became widespread in universities in the early years of Soviet power, when the country felt an urgent need for high-skilled professionals to develop new technologies in the industry, and personnel needed to be trained quickly.

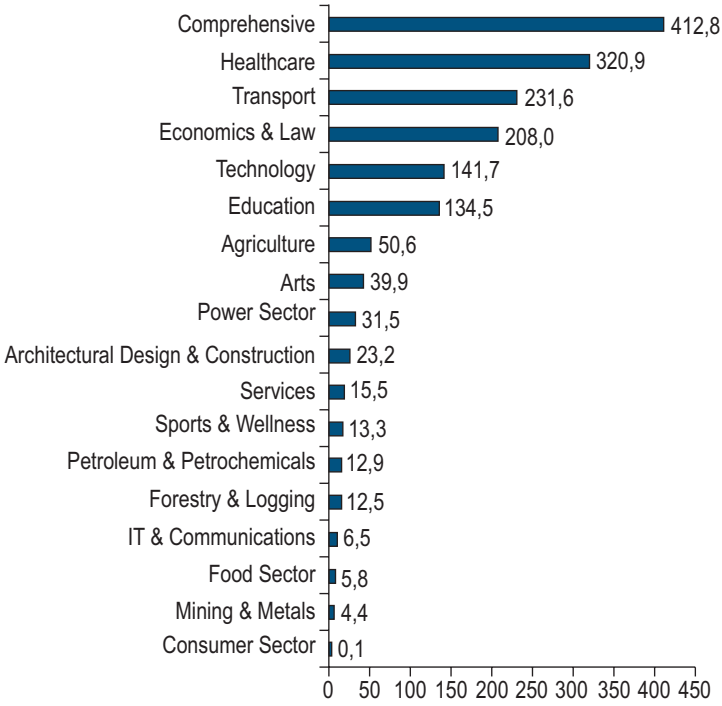
To date, more than 60% of all trainees undergoing continuing learning and development programs study at universities. Strategies for the implementation of additional training programs covering more than 500 people per year have an average of 38% of higher education institutions in each sector, while the rate of SVE is only about 20%. However, universities are much larger than colleges — their average contingent quota is 3,000 people. The number of universities teaching more than 3,000 people through CLD programs reaches already about 10%. Thus, achieving a comparably successful strategy for student learning in universities is somewhat more difficult than in colleges.

In terms of the number of students who have been trained under CLD programs, the first three positions are occupied by classical (multidisciplinary), medical, and transport educational organizations of higher education (Fig. 3.41).

No more than 8–15% of universities implement a successful strategy in certain sectors (with more than 3,000 students in CLD programs, which are equal to the average quota of a Russian university using basic professional educational programs). The distribution of classical (multidisciplinary) universities by the number of students is shown in Fig. 3.42. As can be seen from the figure, not all universities consider CLD programs a source of their development and have appropriate strategies for attracting adult trainees. The study of the published strategies for the development of higher education insti-

[53] *Mukhina T.G., Koposov E.V., Borodachev V.V.* Istoriya i perspektivy…

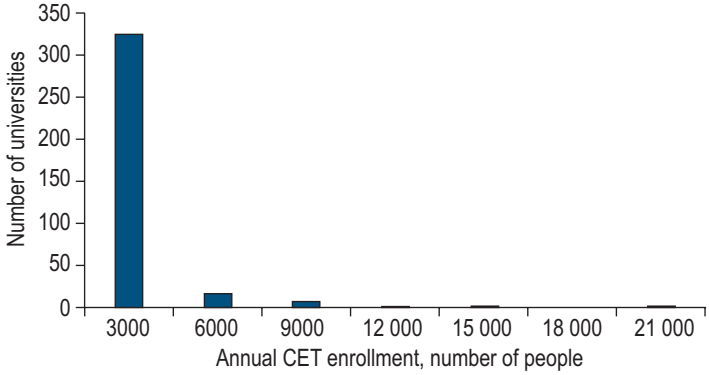
Figure 3.41. Annual Enrollment in CET Programs at Universities Across Industries (Thousands of People)



tutions showed a relatively rare presence of plans to modernize their departments of continuing learning and development for adults. Indicators of increase in the number of trainees are entirely absent or are shown formally. The sources for the development of activities in the field of CLD are not indicated. The priority areas of implemented programs are not formulated and are not associated with the basic academic job-oriented approach of the university, in which the government made the largest investments.

The strategic documents of higher education institutions speak only about the need to increase the number of programs. Their authors limit themselves to general formulations about the development of

Figure 3.42. How Multifaceted Universities Are Distributed by Annual Enrollment in CET Programs



this area — the planned directions of growth are not specified, and indicators are not set. The problem of the development of CLD is touched rather formally, only as "professional development and retraining of academic staff" or "the creation of new competitive educational programs of continuing learning and development by order of enterprises in the real sector of the economy, requested in the Russian and international educational market. Meanwhile, the request for CLD is a reflection of the needs of regional enterprises, and higher education institutions were often initially organized to meet them.

Analysis of the content of web pages of higher education institutions' structural departments reveals elements of strategies for the development of continuing learning and development programs, pricing policy, and the structure of departments. However, the main document of strategic planning most often does not include the position of the management of CLD departments. Most likely, it is because of the absence of both indicators of the implementation of CLD programs among the criteria for monitoring universities, and the state policy in the field of CLD in general.

The development strategies do not provide for the system of "decompressing" basic training programs (typical for the world's leading universities) into separate modules for obtaining specific qualifications or "micro-degrees" on the basis of continuing education courses, which are subsequently taken into account as part of a master's or bachelor's program.[54] The activation of the interest of potential trainees in CLD programs would undoubtedly be facilitated by the following factors.

— Easier transitions and transfers of courses and educational programs within the same institution and between different institutions (the existence of agreements that establish which courses and modules can be accepted in case of returning to the program or when transferring from one institution to another).

— Flexible accelerated educational programs and training schedules. They include training only on weekends and holidays, online training, most popular types of technical support in non-traditional classes, the possibility of multiple entries to programs (and quits), and comfortable starting time of curricula (repeated during the school year). Beyond that, they include the ability to study sections of programs both in full and in short-hand form, as well as modularity of curricula with the receipt of interim certificates/certificates of professional development and other certificates.

— External co-financing of the cost of continuing learning and development programs for adults.

In addition to all mentioned opportunities, continuing education in the United States, for example, is positioned as an "additional entrance" to the most prestigious universities in the world. Thus, the average grade of the final exam for admission to a CLD program at Harvard may be less than for admission to the principal program, while the quality of

---

[54] *Berker A., Horn L., Carroll C.D.* Work First, Study Second: Adult undergraduates who combine employment and postsecondary enrollment // Postsecondary Educational Descriptive Analysis Reports. 2003. <https://nces.ed.gov/pubs2003/2003167.pdf>.

educational services and all other educational opportunities are the same. Trainees of such programs are often in a more privileged position compared to students of principal educational programs when settling in a dormitory (for example, they are provided with single rooms when they come to full-time summer graduation module), etc.[55] *Beyond that, "modular decompressing" of higher education in short-term programs allows stretching the costs of adult citizens over time and reduces the burden on personal budget, making education much more affordable.*

Sectoral distribution of Russian higher education institutions with more than 3.000 trainees per year is shown in Fig. 3.43. The strategies of institutions with a high enrollment of trainees are most easily formed in medical, multidisciplinary, pedagogical, economic, legal, and polytechnic universities. These strategies are most difficult to implement in universities in such sectors as services, light and forest industries and processing, electrical engineering, energy production, informatics, and communications. They serve mainly small and medium-sized enterprises.

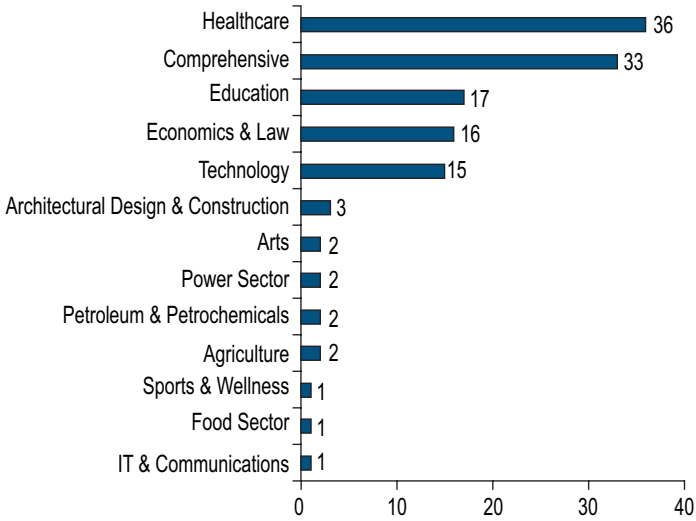
The specificity of the ongoing CLD programs is interconnected with the major profile and specialization of the institution. However, it is interesting that the multidisciplinary nature of higher education institutions provides higher volumes of training under additional educational programs, in contrast to the situation with multidisciplinary professional educational organizations of SVE. Most likely, the very status of the university with its educational certificate is the most efficient incentive to undergo continuing learning and development programs.

This opportunity is actively used by a number of small institutions of higher education, where the development models of CLD plays a more significant role than training under principal educational programs. In such an institution, less than 3,000 people undergo

---

[55] *Kaufman J.* Hacking Harvard. Hacking Higher Education. Part 2. Worldly Wisdom Ventures LLC. <https://joshkaufman.net/hacking-higher-education-harvard/>.

Figure 3.43. How Universities That Enroll over Three Thousand CET Students Annually Are Distributed by Industry (Number of Universities)



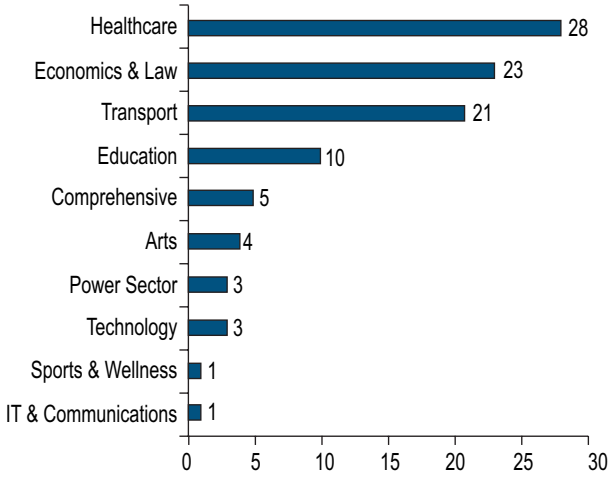
professional development during the year. Nevertheless, this number exceeds the number of students enrolled in the principal educational programs of bachelor's, master's, and specialist's degrees by several times.

In the Russian Federation, the cohort of such universities numbers about 100 organizations. Fig. 3.44 shows their distribution by sectors. Medical, economic, legal, transport, and pedagogical universities hold the leading positions.

However, these educational organizations are either affiliated branches of state and private universities or non-state educational organizations of higher education (Fig. 3.45).

The websites of such universities are more informative in terms of CLD programs and contain roadmaps for the development of the direction, focusing on the needs and capabilities of this category of consumers of educational services. Information about professional

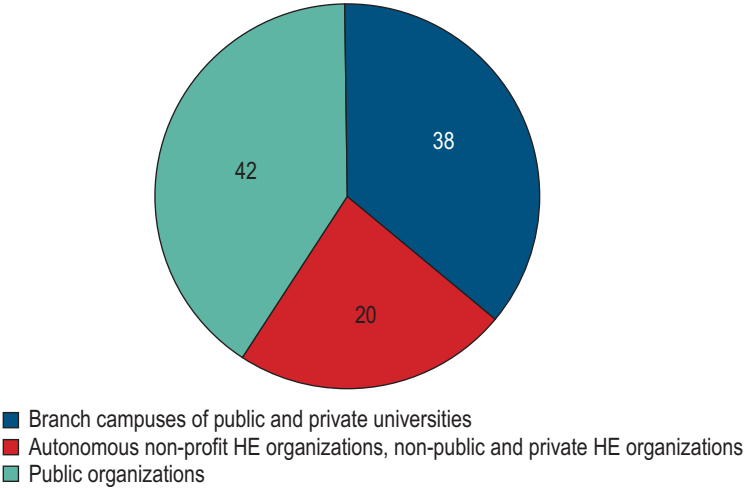
Figure 3.44. How Universities Where Enrollment in CET Opportunities Leads by Wide Margin Enrollment in Degree-Earning Programs Are Distributed by Industry (Number of Universities)



development and reskilling courses is as transparent as possible and can be found with "a single click." To facilitate the choice of the program, they offer potential students a rating of the available courses based on the reviews. Beyond that, the website page dedicated to adult education allows trainees to get the necessary information about the conditions of study, complete a short survey, virtual training, etc.

Continuing learning and development and adult training may well become one of the strategic goals of a medium-sized university. For non-state universities (and especially affiliated branches), the possibility of obtaining research grants from the budget is usually small, and research and development do not become a source of income due to the lack of orders from the industry. Therefore, CLD often becomes the primary source of funds in local universities, and especially in the network of affiliated branches. In this regard, it can be assumed that the potential for the development of CLD in large state universities remains quite high.

Figure 3.45. How Universities That Enroll More CET Than Degree-Program Students (Total Enrollment < Three Thousand) Are Distributed by Organizational Type (%)



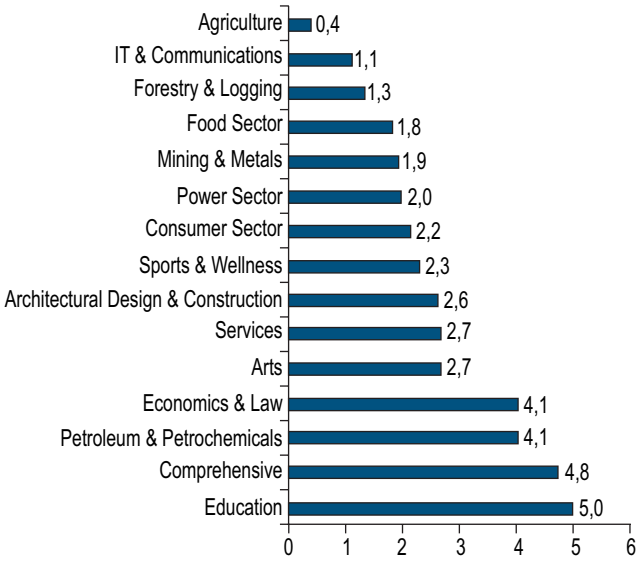
In developed countries, the sector of such institutions is also small — in the United States, it covers only 3 to 5% of adult trainees. Because of the insufficiently high status and narrow offer of programs, such educational organizations do not represent serious competition in terms of the number of trainees for classical regional universities.[56]

In absolute terms, the income from the implementation of CLD programs in state universities (where the number of trainees is over 3,000 people) is several times higher than in SVE institutions and small educational organizations. However, they do not yet demonstrate a significant value in the general consolidated budget in percentage terms (Fig. 3.46).

---

[56] *Bailey T.R., Badway N., Gumport P.J.* For-Profit Higher Education and Community Colleges Columbia University Academic Commons. 2003. P. 1–4. <https://doi.org/10.7916/D8HD841Z>.

Figure 3.46. Proportion of CET Receipts in Total Revenue of Universities Across Industries (%)

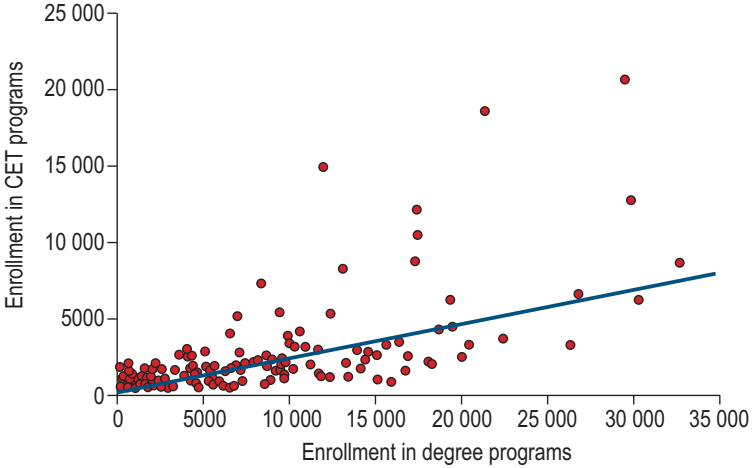


Pedagogical (5%) and multidisciplinary classical (4.8%) universities have the highest indicators in terms of the share of income from CLD if we look at state higher education institutions that implement the most successful strategies. The indicators are slightly lower in the sectors of oil and gas production and refinery processing (4.3%), as well as economics and law (4.1%). In other universities, the indicators are fewer than 3%. Agricultural universities have the smallest income from CLD with respect to the total budget (only 0.4%).

Low income rate from CLD is associated not only with the fact that the volume of these services is not taken into account in the annual assessment of the performance of universities but also with the fact that government revenues to the budget of the university with a high level of material support are decisive. The very budget funding (including research and development works) makes up the primary income of a large university.

As for state universities whose volume of CLD is more than 3,000 people per year, they generally have interconnection between admission to basic educational programs and the number of trainees under CLD programs (Fig. 3.47).

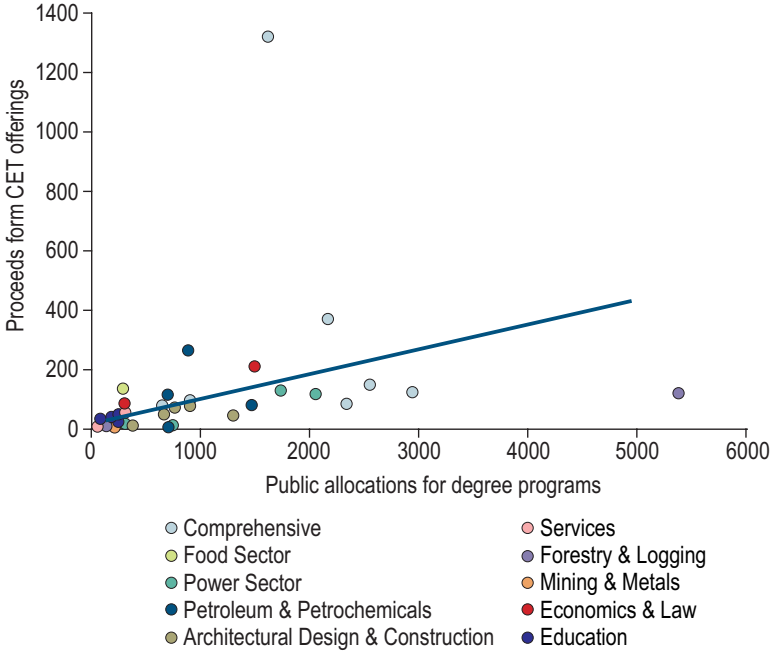
Figure 3.47. How Enrollment in Formal (Degree-Awarding) Programs Is Related to Enrollment in CET Programs at Comprehensive Universities (Number of People)



As in the case of professional educational organizations, universities with a high quota of students have more resource opportunities and a greater number of suitable teachers for the implementation of various CLD programs. They also have a larger number of senior students involved in completing additional programs on a fee-paying paid basis.

Most likely, for the same reason, revenues from the implementation of CLD programs grow due to an increase in the total volume of government assignments in terms of basic vocational education and training programs (Fig. 3.48).

Figure 3.48. How Public Funds Earmarked for Formal (Degree-Awarding) Programs Are Related to Proceeds that Universities Earn from CET Offerings (Millions of Rubles)



For an adult intending to undergo training under a continuing learning and development program, the status of a higher education organization is of great importance. Therefore, although universities do not make up the largest share among all organizations providing these programs, they continue to be the key players in this market of educational services in terms of the scale of education, regardless of the region.

The survey of university websites shows that, as a rule, successful universities offer up to 200 continuing education programs. The cost of the programs varies in a wider range than in SVE institutions and amounts from 600 to 600,000 rubles. Meanwhile, the primary

income is achieved due to the number of attracted graduates, and not due to the cost of programs. The more programs prepared and posted on the university website, the more trainees in this organization since the very status of the university is decisive when choosing an educational organization.

Higher education institutions offer students and seniors citizens programs aimed not only at acquiring specific and updated qualifications (for example, in the field of IT and programming languages), but also at acquiring management skills. Beyond that, they offer programs developing leadership and entrepreneurship, MBA programs, and programs teaching quality management technologies, projecting, and promotion of innovative products, as well as financial, information, and other types of literacy.

Along with that, universities have not yet fully become flagships in terms of additional educational services for the regional industry, and especially the population. The share of personal development programs (for example, as part of "universities of the third age") is small. At the same time, the strategy of offering educational programs focused "on the world of every adult learner aged 18 to 89, every time zone, and every culture and career background"[57] opens up completely new market niches for foreign universities for the development of this type of service.

3.5.3. Employee Education by Companies

As a result of acceleration of changes in technological waves, the main work of people who graduated from professional educational organizations and universities often turns out to be unrelated to previously received education nowadays. This situation is exacerbated by the disproportion between the demand of enterprises for highly specialized competences and the fundamental knowledge

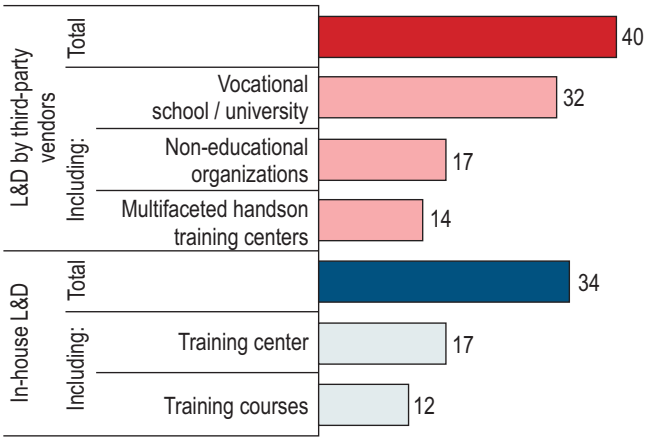
[57] Harvard University Extension School. <https://www.extension.harvard.edu/>.

and general skills that colleges and universities provide. Thus, the further training system objectively may not keep up with the needs of production and the labor market.

As we saw earlier, employers (in most cases) initiate and pay for training the working-age population's skills that are specific to a given company. In this sense, enterprises perform the function of an educational organization for their personnel and form an appropriate training policy.

According to the Monitoring of the Economics of Education[58], in-house training still slightly lags behind training in outside organizations (Fig. 3.49). Beyond that, mentoring and practice-oriented training in a center or enterprise training courses are its predominant forms.

Figure 3.49. Structure of Corporate Learning and Development by Type of Vendor (%)



[58] *Bondarenko N.V.* Masshtaby i mekhanizmy obucheniya rabotnikov kompaniyami // Monitoring ekonomiki obrazovaniya. Informatsionno-analiticheskiye materialy po rezultatam sotsiologicheskikh obsledovaniy. M.: HSE Univ., 2016. No. 2 (28).

When choosing an external training partner, companies prefer colleges and universities, but organizations outside the education system that are capable of transferring technology through joint projects play an important role in acquiring special qualifications. Multifunctional centers of applied qualifications (MCAC) are an example of such organizations.

Nowadays, about 63% of Russian companies organize training for their employees, which is well below the average in the EU countries (close to 80%).

Monitoring of education economics demonstrates that institutional forms of the implementation of the learning process are more common in large companies (Table 3.1). Unlike small and medium-sized businesses, every second such enterprise has a formal plan or budget for employee training.

Table 3.1. Select Elements of Corporate Learning and Development Plan at Russian Companies of Various Sizes, 2015 (Number of Employees)

Activity / Item on L&D Plan	Company Headcount				Average
	<25	25–99	100–249	>250	
Analyzing staff qualifications and skills (assessing the needs for talent L&D on an ongoing basis), % of all respondents	8	11	19	43	24
Evaluating skills/competences upon L&D completion, assessing the efficiency of the corporate L&D system, % of employees	25	12	19	37	25
Approved corporate L&D plan / L&D budget in place, % of all respondents	10	25	31	52	35

Source: Bondarenko N.V., Krasilnikova M.D., Lysova T.S. Organizatsiya obucheniya personala v kompaniyakh i sotrudnichestvo predpriyatiy s sistemoy professionalnogo obrazovaniya // Monitoring ekonomiki obrazovaniya. Informatsionnyi byulleten. M.: HSE Univ., 2016. No. 10 (99).

The training policy of a company depends on the phase of its development. Young enterprises that have just incurred investment costs and the corresponding recruitment of employees primarily train their job skills necessary for the daily implementation of production and business processes. Training is conducted directly by the managers and founders of the company (when it comes to a start-up) or representatives of the parent organization and its educational center (when it comes to a unit of an enterprise localized in the region). Young companies often resort to the services of external trainers, since they have not yet accumulated their own competences. Typically, nearly all employees of a new company complete training during the first 12 months of its existence. At the same time, the organization's expenses for educational activities are maximum.

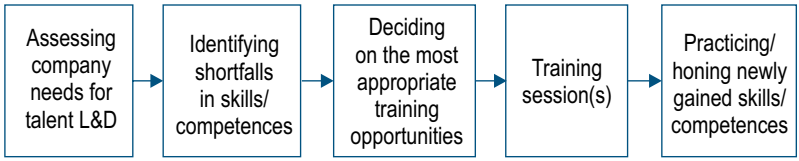
If the company has existed for quite a long time, and the production business processes have been well established, staff training is considered as a tool to ensure its sustainability and development, based on the existing production facilities. In this case, the composition of the programs includes training in the practices of developing labor productivity, quality management during the teamwork, corporate culture, management of new projects, etc.[59]

Training is conducted according to the tasks that arise in the company. In this case, one should begin with diagnosing the situation and identifying the problem that hinders the development (Fig. 3.50).[60] Then, it is necessary to assess personnel competences, the deficit of which is the source of the existing problem. The next step lies in the need to find training that can be used to gain competence. After completing the training, it is essential to consolidate

[59] *Korshunov I.A., Gaponova O.S.* Organizatsionnoe upravlenie predpriyatiyami rannikh faz razvitiya. M., 2017.

[60] *Gaponova O.S., Nazarova E.V.* Teoreticheskie aspekty obucheniya i razvitiya personala v sovremennykh realiyakh ekonomicheskogo progressa //Aktualnye problemy sotsialno-ekonomicheskogo razvitiya i puti ikh resheniya: Materialy mezhdunarodnoy nauchno-prakticheskoy konferentsii. 21 fevr. 2013. Dzerzhinsk. 2013.

Figure 3.50. Corporate Learning and Development: Model Flow



achieved knowledge, skills, and abilities through internal communications and external control of the repetition of correct behavior (sequence of actions) in the problem for which a solution was sought through the appropriate training.

As an illustration, let us consider the following example from our practice. Two young designers were very active in the new workplace. Outwardly, the situation looked quite good: they were looking intently at the monitor screen, talking about technical issues, communicating easily, and helping other employees of the department. However, statistical analysis showed that they processed the least amount of the provided design documentation. Then the management decided to arrange a "photo of the working day," and employees were asked to record everything they did. The analysis looked something like this. "I read the documentation, consulted with Sidorov, helped Nikolai move the table, drew part of the product, again tried to puzzle out the documentation, visited Sidorov's website, then looked for a piece of paper the initial drawing was done whereon. I found it but realized that I had been mistaken and began to redo it."

The Talent and Development Department proposed that these managers be sent for time management training. As a result, the designers mastered the following skills.

1. The designers began to group tasks and set the time for each group. For example: in the morning, I work through the external characteristics of products; from 11.00 to 13.00, I enter the data into the computer and make drawings; from 14.00 to 17.00, I get acquainted with the documentation concerning the next product.

2. They managed to learn how to set priorities and say "no" (of course, it is necessary to help a colleague, but this help should not affect work and especially the execution of the drawing).

After analyzing the projects fulfilled by the designers a month after completing this training, the founders were able to assess their work positively.

HR departments work in close connection with educational service providers, such as business schools, management and technology institutes, consulting and training companies, and educational institutions.

Regarding the field of corporate education in Russia, one may note several types of interactions with the participation of corporate universities and training centers. The partnership of corporate and traditional professional education is one of the most successful ways of such interaction.[61] The modular system of training specialists for corporations (with the use of capabilities of state universities and colleges) is widespread in practice.

The creation of subdivisions of corporate universities as institutions or specialized departments of state universities is one of the most common forms of interaction between business and higher education. Such an example is the Higher School of Innovative Business of OAO Russneft at the Lomonosov Moscow State University, where specialists in the oil and gas sector are trained. Training is carried out in cooperation with the faculties of Geology, Chemistry, Law, and Economics, as well as the Faculty of Public Administration.

The development of educational standards taking into account modern professional requirements, research activities, support of talented youth, and other aspects are the points of intersection of interests of the university and business.[62] These processes stimulate the needs of the labor market and the current employer's requests for a qualitatively different result of training students.

---

[61] *Kaganov V.Sh*. Korporativnoe obuchenie kak faktor obespecheniya konkurentosposobnosti predprinimatelskikh struktur // Sovremennaya konkurentsiya. 2011. No. 6.

[62] *Roshchin S.Yu., Travkin P.V*. Dopolnitelnoe professionalnoe obuchenie na rossiyskikh predpriyatiyakh // Zhurnal Novoy ekonomicheskoy assotsiatsii. 2015. No. 2 (26). P. 150–171.

Since the Soviet period, there has been observed a tradition of interaction between enterprises and secondary vocational schools, when employees of enterprises receive further training, and students of technical schools undergo in-house training with the possibility of further employment. Joint projects of corporations and educational institutions play an important role in regional development, contributing to the creation of local technological microclusters, whose work provides for close cooperation. Such complexes create conditions for intentional training of specialists of a particular enterprise or scientific field.

As for the example of one of the microclusters, one may note the system of the TsKP YuKU "Vysokie tekhnologii" (High Technologies Common Use Center of South Corporate University). This corporate infrastructure ensures the system integration of the sectors of academic and applied science with higher education, intending to intensify research activities and education. The center was created on the basis of member organizations, namely the Southern Federal University (SFedU), the Taganrog Institute of Technology of the SFedU, and the South Russian State Technical University (SRSTU). These universities mainly focus on research in the field of nanotechnology.[63]

The corporate university can be considered as a center for regional development, ensuring the integration of efforts of business, the academic community, and the state, as well as the integration of educational, research, and innovation activities within the educational process.

Kaluga Region is famous for the production of pharmaceutical drugs and isotopes and radiology. Historically, education in the Kaluga Region was geared towards the preparation of engineers and physicists. Therefore, it was necessary to promptly solve a range of problems related to rapid training of personnel. For this purpose, a Center for Practical Training was created on the basis of public-private partnerships since

---

[63] *Anisimov A.A., Aniskin Yu.P.* Organizatsiya korporativnogo obrazovaniya na baze tekhnologicheskikh mikroklasterov // Organizator proizvodstva. 2015. No. 3 (66). P. 61–67.

both the government and pharmaceutical companies were interested in it. The regional government and a subsidy from the Ministry of Economic Development of the Russian Federation supported the project.

In a short time, this project was successfully implemented on the basis of the Obninsk Institute for Nuclear Power Engineering (OINPE NRNU MEPhI), which is well-known not only in the Kaluga region, but also outside it. Now the Center prepares bachelors and masters in industrial pharmacy and carries out professional development and reskilling. Coincidently, the number of students is 250 people. Furthermore, the principle of dual education is also used (theory + practical training at the enterprises of the cluster). The Center cooperates with leading Russian and foreign educational bases of the international level. They include the Berlin Vocational education and training Center for the Pharmaceutical and Chemical Industries and the International Pharmaceutical Federation. The Center trains specialists for work in quality assurance and quality control departments, as well as technologists and specialists of engineering services who deal with cleanroom facilities. The training equipment is similar to that installed in enterprises. Investors' requirements for the quality of personnel training are also taken into account to the utmost. As a result, the rehired personnel can immediately get back to blue-collar work after completing the training.[64]

The company implements the training function to the fullest extent possible in the case of creation of its own **corporate university or training center**. There are two primary approaches to creating an efficient corporate university:

1) an alliance with traditional educational institutions or specialized service organizations; and

2) the formation of an autonomous structure.

In practice, the first option is more popular, since it is an economically more affordable way to organize the educational process.

Autonomous corporate universities can be roughly divided into two groups:

---

[64] Ego primer — drugim nauka. Kak razvivalsya farmatsevticheskiy klaster v Kaluge // Lekarstvennoe obozrenie. No. 21 ot 07.11.2017. <http://www.aif.ru/gazeta/number/36271>.

1) educational ones, mainly engaged in basic personnel training; and

2) innovative ones, focused on solving urgent business problems, as well as knowledge management and their application in the development of new products and services; they are typical for rather large innovation-oriented companies.[65]

The emergence of corporate universities is associated with the emergence of large transnational corporations (TNCs), where staff development service was not enough to maintain universal production standards. Therefore, constant training of a huge number of employees was required. Education in TNCs became an integral part of the organization's activities. General Motors was the first company to establish a training organization in 1927. The General Motors Institute had 99 units in 21 countries (with 400 permanent employees) and a budget of about $100 million.

The concept of the corporate university was first used by Motorola, which has one of the most famous corporate training centers nowadays. McDonald's established the first international center for training managers (Hamburger University) in 1961.[66]

Corporate universities, which are known as "learning organizations" in Western practice[67], are the most actively developed providers of continuing learning and development for adults. As a structural element of the corporation, the corporate university (together with the management of the companies) takes part in the development of universal business technologies, the formation of corporate values, the development of internal culture, and their implementation at all

---

[65] *Zinurova R.I., Tuzikov A.R.* Tipy korporativnykh universitetov i ikh rol v innovatsionnom razvitii khimicheskoy i neftekhimicheskoy otrasli // Vestnik Kazanskogo tekhnologicheskogo universiteta. 2010. No. 9.

[66] *Malichenko I.P.* Virtualnyi korporativnyi universitet kak innovatsionnyi mekhanizm vzaimodeystviya biznesa i vuza v sisteme professionalnogo obrazovaniya // Kreativnaya ekonomika. 2014. No. 12 (96).

[67] *Anokhina V.V.* Korporativnyi universitet v sovremennom dopolnitelnom obrazovanii vzroslykh // Izvestiya VolgGTU. 2008. No. 5.

levels of the organization. The corporate university builds employee training on the back of company-specific situations, increasing employees' motivation to learn.[68]

The primary goal of creating a corporate university is to help to improve the system for managing the corporation, where the university becomes an essential link in the continuous development of employees. As a rule, corporate universities are directly related to the strategic goals of the business, enjoy strong support of company executives, and implement the strategy of personnel development as a key resource of the organization.[69]

Corporate education is always more practice-oriented, even when developing general competences. The corporation sets and enhances the specialization of the employee rather than organizes his education.

Online education at corporate universities has its unique features. The compliance of the content of standard training materials with the needs of the company and the ability to adapt the provider to the specifics of organizational activities are the crucial criteria that guide Russian companies when choosing electronic education providers. Electronic education enables targeted employees to acquire specific knowledge and skills and provides opportunities for continuing and individual study available for a significant number of employees. As a rule, a virtual corporate university unites all types of distance learning, namely, training with the use of computers, online training (e-learning), etc.

Often e-learning at corporate universities is formalized in a separate area of activity. For example, such practice is used at the corporate

---

[68] *Andreyeva L.Yu., Somko M.L., Dzhemaev O.T.* Perepodgotovka spetsialistov krupnykh kompaniy na osnove sozdaniya sistem upravleniya znaniyami v korporativnykh universitetakh //Prostranstvo ekonomiki. 2014. No. 2–3.

[69] *Kostin V.A., Kliman S.V.* Rol korporativnogo universiteta v realizatsii kadrovoy strategii kommercheskoy organizatsii //Sotsium i vlast. 2015. No. 1 (51).

university of hydropower industry RusHydro. Nowadays, it has announced more than 50 programs allowing students to study remotely. They include a Microsoft self-instruction book, organization of IT services management and principles of interaction of IT departments, work with document traffic, project management unit, organization standards, etc. They help to acquire various qualifications — from basic skills of new workers to the fundamentals of the hydropower industry.

The Virtual Power Engineering University of Inter RAO UES aims to provide high-quality educational services in the electric power industry via the Internet. Compared to traditional training, corporate e-learning reduces time expenses by 50%, and value expenses are reduced by 30–50%. Among the major problems hindering the mass introduction of e-learning systems, one can name the shortcomings of the existing e-learning content, as well as alertness and reluctance of the management to implement expensive technologies in the hinterlands. One may also note the resistance of the staff to provide the head or HR manager with data on the training due to the insufficient level of knowledge of information technologies or the unwillingness. Also the lack of previous experience of online education can be mentioned.

The production's need for employees capable of using competitive technologies became the main reason for **the creation of Russian corporate universities**. In Russia, exactly technological enterprises were among the first to face a personnel problem in the labor market. They were forced to pay attention to the need to "grow" potential candidates in advance. In some cases, companies start preparing a reserve as early as from lower school or college. Because of the costs associated with the search and hire of employees, it is more profitable for companies to create an independent in-house training system for personnel.

In contemporary Russia, corporate education emerged in the 1990s, and the units of corporate universities of Western companies (Coca-Cola, McDonald's, Motorola) were the first to be created in the Russian space. In 1999, VimpelCom founded Beeline University, and Russian Aluminum established its institution in 2000. Severstal founded its university in 2001, Wimm-Bill-Dann and Rostelecom did it in 2002, Ural vagon zavod joined

the trend in 2005, and Norilsk Nickel created an institution in 2007.[70] *In 2015, according to the RBC survey of corporate education in Russian companies, there were already at least 100 in-house structures engaged in corporate training in Russia.*[71]

The scope and depth of training are closely related to the size of the enterprise and its economic climate. Thus, among large companies with more than 500 employees, the share of those who undergo corporate training is 80%, and companies with 50 to 200 employees have a 50% rate. The sizes of corporate educational structures vary: they train from 500 to almost 200.000 people a year.

University rankings do not include corporate universities, which are created within companies and are units of corporations, and sometimes their diplomas are quoted only within the organization.[72] In the United States, however, an increase in the relevance of corporate diplomas and certificates in the foreign market (compared to national ones) is observed, especially in the field of digital technologies. For example, Microsoft, 1C, Linux, and Digital October diplomas are valid for employment in the widest range of international IT companies. Russian corporate universities (for example, Sberbank Corporate University) also pose the task of external recruitment of trainees.

The first place in the number of corporate universities in the Russian Federation is occupied by the financial sector, which also covers insurance and marketing (Fig. 3.51). A large group is constituted by training centers in the production sector (mechanical engineering, metallurgical industry, and petrochemistry), as well as in service sec-

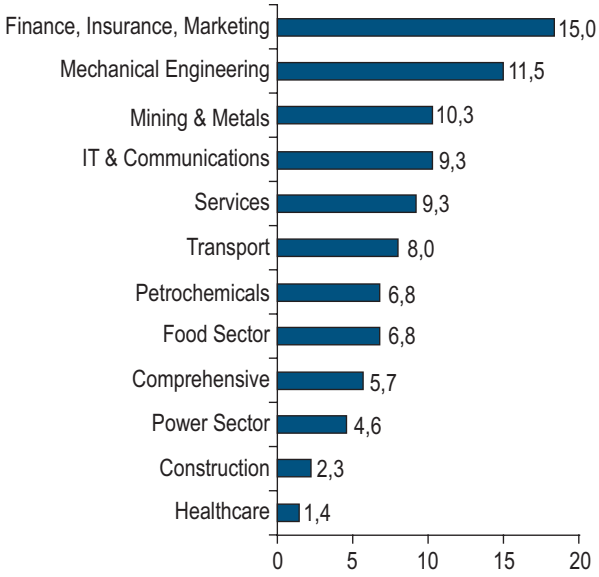
---

[70] *Anokhina V.V.* Korporativnyi universitet v sovremennom dopolnitelnom obrazovanii vzroslykh // Izvestiya VolgGTU. 2008. No. 5.

[71] *Myazina E., Babitsky A.* Reyting RBK: 15 liderov korporativnogo obrazovaniya. <https://www.rbc.ru/special/business/27/04/2015/552c5adf9a7947ba47f95877>.

[72] *Zinurova R.I., Giniyatullina D.R.* Upravlenie znaniyami v zarubezhnykh neftekhimicheskikh korporatsiyakh (na primere angliyskoy neftyanoy kompanii British Petroleum) // Vestnik Kazanskogo tekhnologicheskogo universiteta. 2010. No. 12.

Figure 3.51. How Corporate Universities in Russia Are Distributed by Company Sector (%)



tor, trade sector, and food production. According to the RBC rating, the top 15 companies paying the most attention to employee training included 2 banks, 4 telecommunication corporations, 3 metallurgical companies, as well as 3 companies representing oil production and petrochemistry, power industry, and nuclear industry.[73]

Corporate universities have different legal forms of organization. They can be conditionally divided into two groups.

The first group includes those that are structural units of the company. Institutes related to the production sphere occupy a special place among them (power industry, mechanical engineering, etc.).

Many companies in the energy sector have their own corporate universities (RusHydro (http://www.korung.rushydro.ru/), Inter RAO UES (http://www.keu-ees.ru/), etc.). The specifics of their work implies the al-

[73] *Myazina E., Babitsky A.* Reyting RBK...

location of a special category of personnel subject to compulsory advanced training with additional requirements for compliance with labor protection and safety measures. Training budget is formed as a percentage of the gross profit of the enterprise at the rate of 1–2%. The educational plan primarily includes programs for workers. To date, in-house training accounts for up to 60% of the total volume of professional development of the company's specialists. One of the most advanced forms of training is the organization of job skills competitions among employees of the enterprise in various specialties, including by WorldSkills standards.

The second group of corporate universities includes state higher education institutions that train specialists in various fields for a particular sector. Upon completion of education, graduates receive ordinary national diplomas. Education in such universities is conducted under bachelor's and specialist's programs, and adults learn under master's and continuing learning and development programs.

The Gubkin Russian State University of Oil and Gas (basic higher education institution of the Russian oil and gas complex since 1930) is the oldest corporate university of this type. This group also includes the corporate university "Graduate School of Management and Innovation," created in 2006 at the initiative of Moscow State University and AFK Sistema, which owns such companies as MTS, MGTS, SkyLink, Intourist, Moscow Bank for Reconstruction and Development and others. The Corporate Nuclear University was formed on the basis of the National Nuclear Research University and Moscow Engineering Physics Institute (NRNU MEPhI). Kazan National Research Technological University performs the functions of a corporate university for the implementation of training and retraining programs in the petrochemical cluster. It performs these functions within OAO Tatneftekhiminvest-holding, OAO Technopark Idea, the design institute Soyuzkhimproekt, OAO Nizhnekamskneftekhim, and other partners.

In the mid-2000s, further institutionalization of corporate education in Russia took place. In 2007, heads of corporate educational structures of leading industrial companies founded IACE (International Association of Corporate Education).[74]

[74] <http://www.makonews.ru>.

IACE is an integrator and consolidator of international experience, creating conditions for the development of corporate education all over the world. Nowadays, IACE includes more than 40 largest Russian and international companies, including JSC Russian Railways, OAO RusHydro, State Corporation Rosatom, AFK Sistema, IBM Russia and CIS, ZAO Schneider Electric, E.ON Russia, OAO Tupolev, Sheremetyevo International Airport, OAO SO UES, OAO MTS, OOO Basic Element, OOO Siemens, FC Uralsib, etc. They implement joint programs in the field of corporate education.

In the practice of corporate education programs, a pool of rather flexible and efficient methods for training company personnel has formed. They include secondment (practical training, rotation), shadowing (monitoring of the work process), mentoring (guidance and targeted transfer of experience), and supervising (monitoring of the educational and professional activities of the trainee and assessment of the level of development of his competences). Beyond that, one can name buddying (inclusion of the trainee in the process of another person's activity), coaching (disclosure of the individual's potential), and e-coaching (online coaching). There are also tutoring (support of the learning process and discussion of the experience of transferring the acquired knowledge into real practice), business simulations (simulation of enterprise management), storytelling, etc.[75]

The key focuses of the programs of Russian industrial corporate universities differ from corporate programs at state universities and organizations of continuing learning and development. In particular, the real sector pays more attention to skills development programs in the field of labor protection, job skill competitions, quality management systems, the manufacturing system (for example, "lean manufacturing"), and corporate culture. Beyond that, skills are divided into purely professional (tied to the technological process)

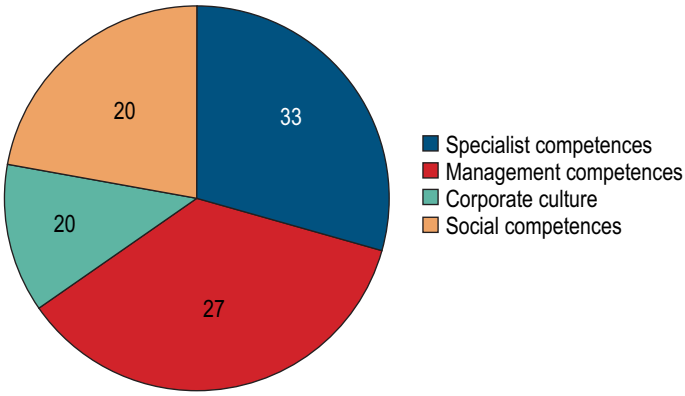
---

[75] *Masalimova A.R.* Zarubezhnye tekhnologii korporativnogo obucheniya: sushchnost i ikh znachenie dlya otechestvennoy praktiki nastavnicheskoy deyatelnosti // Kazanskiy pedagoicheskiy zhurnal. 2012. No. 4.

and transversal (literacy, cooperation, communication, presentation of results, etc.). Educational programs at corporate universities are structured according to the following main groups: 1) professional, 2) managerial, 3) social, and 4) corporate culture.

The ratio of programs depends on the customer's sectoral affiliation. The more production processes in a corporation (for example, in the sectors of mechanical engineering, metalworking, extraction and processing of minerals, etc.), the higher the proportion of programs that involve offline further training, including on training devices and simulators (Fig. 3.52 and 3.53). In this event, programs of corporate universities normally combine training aimed at the simultaneous development of several skills and competences.

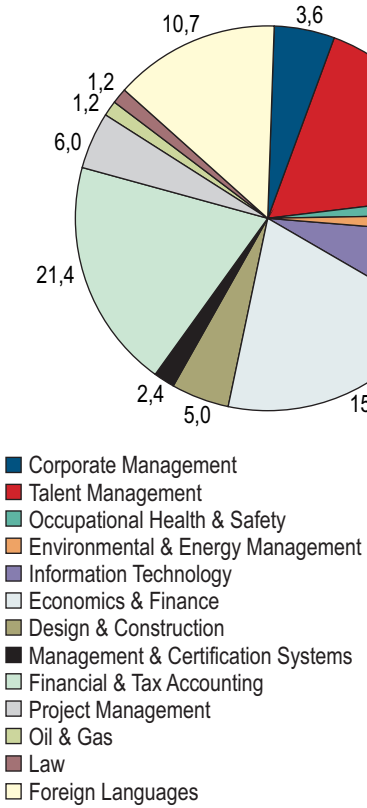
Figure 3.52. How CET Offerings of Sber500 Corporate Accelerator Are Distributed by Target Competencies (%)



Summarizing the above, we will single out the basic models that are implemented in the corporate segment of training.

Within *the traditional model*, the enterprise forms the program and finances the training. The educational organization adapts the given framework and directly conducts training. At the same time, the achieved result is confirmed either in the Qualifications Assess-

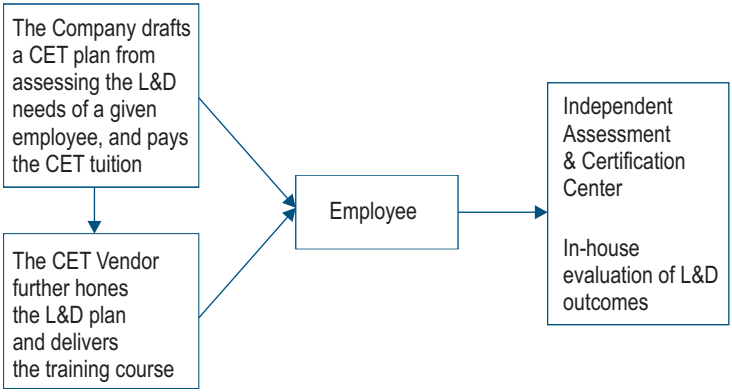
Figure 3.53. How CET Portfolio at Gazprom Corporate University Is Distributed by Area of Training (%)



ment Center (voluntarily) or based on the results of the certification of trained employees directly in the corporation (Fig. 3.54).

Interaction between participants in the educational process (carried out in a corporate context) can be efficiently achieved within *the network model* (Fig. 3.55). It reflects the attempt of the Gazprom Neft corporate university to build a network structure of relationships, implemented in the image and likeness of the online service Market-

Figure 3.54. Corporate L&D: Flow of Interaction Between Client Company and CET Vendor



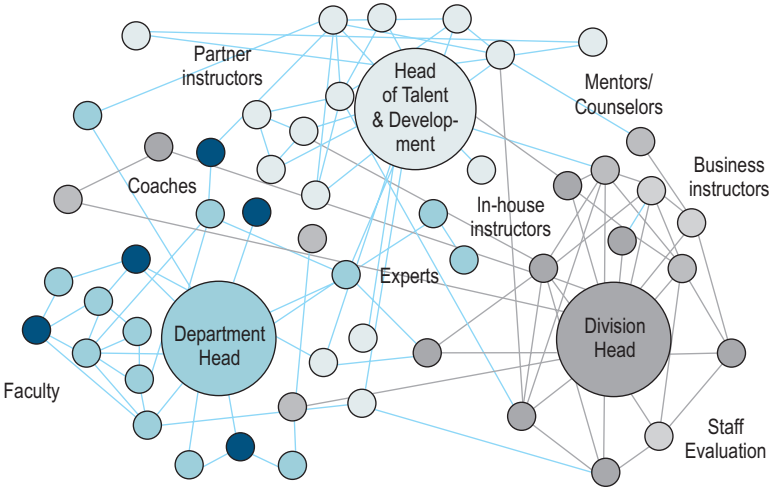
place. It has to be made through the creation of multiple horizontal connections between all participants, namely departments, experts, mentors, internal trainers, and trainees.

Corporate universities are carriers of new process technologies. Therefore, direct training or participation in open educational programs organized by them provides trainees with significant advantages in the labor market, especially in competitor companies.

In October 2010, Barack Obama announced the launch of a new initiative, Skills for America's Future.[76] *Its goal is to provide strong partnerships between growing industries, colleges, or specific curricula in every state of the country. More than $2 billion has been donated to colleges to develop partnership programs. The initiative of the Department of Labor and Employment and the Department of Education was aimed at collaborative networking programs with other institutions and businesses. As part of this initiative, companies such as PG&E, McDonald's, United Technologies, and Accenture Gap Inc. have expanded their presence in colleges (both through on-the-job training and virtual simulators and online educational resource systems previously used only in corporate learning).*

[76] <www.skillsforamericasfuture.com>.

Figure 3.55. Model Corporate University Network (Based on How Corporate University at Gazpromneft Oil Company Is Designed)



Such a model provides an opportunity for the most flexible transfer of job skills, knowledge about the production system and corporate culture, as well as the embedded social and emotional skills of behavior in the corporation.

3.6. Electronic Learning Resources – New Formats in Adult Education

Nowadays, the development of human capital is increasingly associated with the use of digital technologies, which make it possible to flexibly adjust its quality to the immediate tasks of production and personal growth. In this respect, e-learning has no match since educational information is generated systematically and purposefully (by the joint efforts of a teacher and a trainee based on widely tested experience).

Enterprises are increasingly choosing online technologies to train their staff. In conditions of rapid turnover in staff, it is an af-

fordable tool for "induction training" of employees. Besides, the transition to remote learning allows enterprises to save significant funds when transferring corporate culture and production standards to remote units.[77]

Nevertheless, there is no considerable growth in online adult education. According to Rosstat, the level of use of Internet technologies has remained unchanged over the past 10 years, amounting to 7–8%.[78]

Let us consider what areas of organization of the educational process have electronic resources that are the most efficient and capable of substantively increasing the involvement of citizens in continuing education.

3.6.1. Components of an Efficient Online Course for Adults

Electronic educational resources are the basis of e-learning. They are represented by content in an electronic digital format[79] that requires computer aids for its use. The analysis of numerous resources for adult education allowed us to identify the components of online courses that let adults simultaneously solve the problems of navigation in the variety of programs offered and to ensure the transparency of the assessment system and the validity of issued certificates (Fig. 3.56).

Each online course contains a program or curriculum. If the student imagines in advance how much information and tests he will have to work through, then the probability of completing the training increases considerably. Unlike traditional courses, this is an electronic document, and it may contain hyperlinks to files with more detailed descriptions of assignments concerning recommended reading or scripts. Almost every course has a teacher record section. This information is one of the most

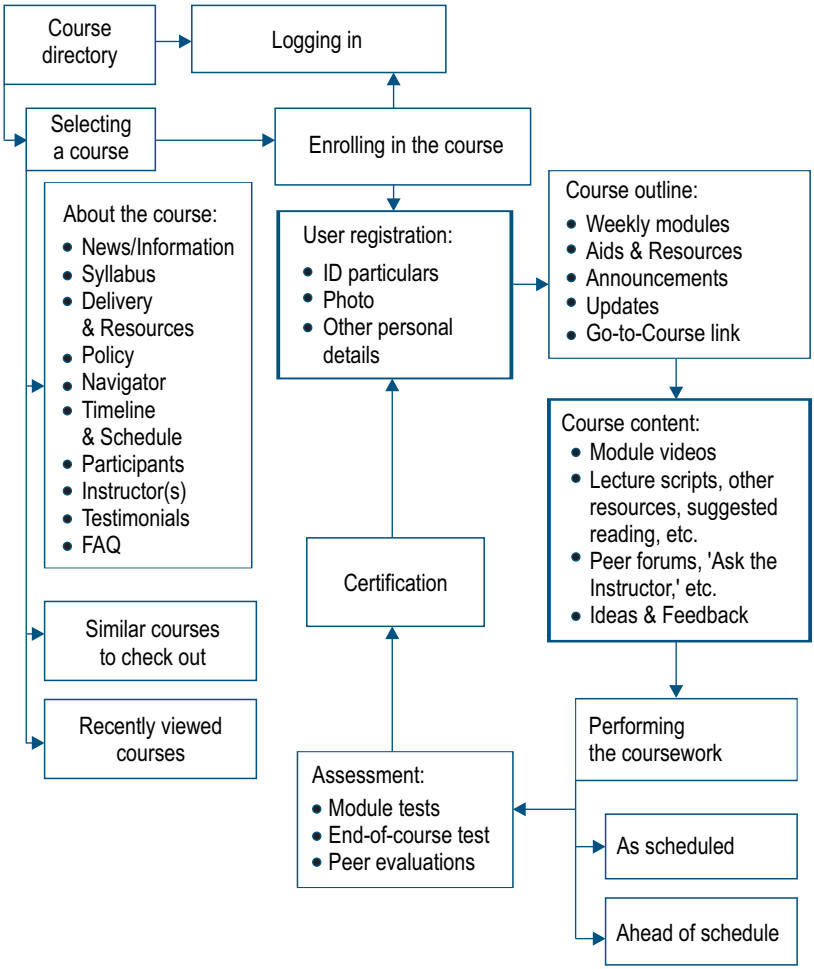
---

[77] *Uvarov A.Yu*. Zachem nam eti MUKi // Informatika i obrazovanie. 2015. No. 9. P. 3–17.

[78] *Korshunov I.A., Kuzheleva K.S., Grachev. B.A., Sergeyev K.A*. Obuchenie i obrazovanie vzroslykh: vostrebovannye programmy, vozrastnaya i otraslevaya struktury // Fakty obrazovaniya. M.: HSE Univ., 2018. No. 1 (16).

[79] GOST 52653-2006.

Figure 3.56. Model Structure and Flow of Certificate Online Course



significant factors when a trainee chooses a particular training event on the Internet. Most courses offer one or more written assignments in addition to forum posts, draft, tests, and the exam. Upon successful completion of the testing procedure, the trainee receives a paper or electronic certificate confirming the received education.

The problem of trust in documents on online education is one of the most crucial. Coursera solves it with the help of two types of certificates.

Statement of Accomplishment. This is the ordinary certificate of completion of a free course, which is issued if all assignments of the course are completed on time and with the minimum required amount of points (depending on the course: usually a trainee needs to gain at least 50–80% of correct answers).

Verified Certificate. This certificate is issued only when the trainee completed a course on a fee-paying basis, and it implies a mandatory user identification procedure. The certificate obtained in this way is accompanied by a separate web link, and it is implied that a potential employer (or anyone who wishes) can use this link to make sure that this particular citizen has completed this course and passed all tests.

3.6.2. Electronic Learning Resources for Acquiring In-Demand Skills

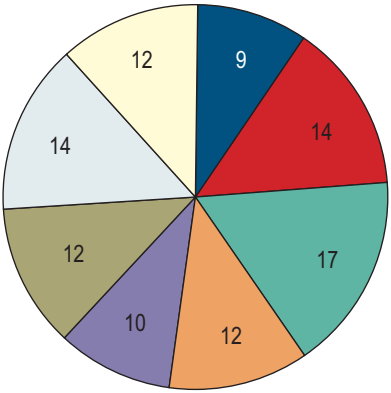
Users of electronic resources express a request for the acquisition of skills because of both professional and personal interests. Depending on the purpose of implemented programs, online educational resources can be divided into the groups shown in Figure 3.57.

The model of distribution of online resources is formed according to the types of acquired skills and competences to tackle job tasks (Fig. 3.58). Determining the skills necessary to solve a particular problem in the enterprise, the head of the training department or HR manager turns to a specialized online resource and offer the employee a suitable course for training.

Microlearning is one of the most advanced e-learning practices. It is the study of a small volume of material in a short span of time. The trainee acquires knowledge in small increments using short materials (available on various gadgets), and their reviewing takes no more than 5–7 minutes. The trainee can start studying at any time and concurrently achieve maximum alertness, which makes this format rather efficient.[80]

[80] <https://kogio.ru/blog/10-ways-to-use-microlearning/>.

Figure 3.57. How Market for Online Education and Training Is Distributed by Groups of Most In-Demand Offerings (%)



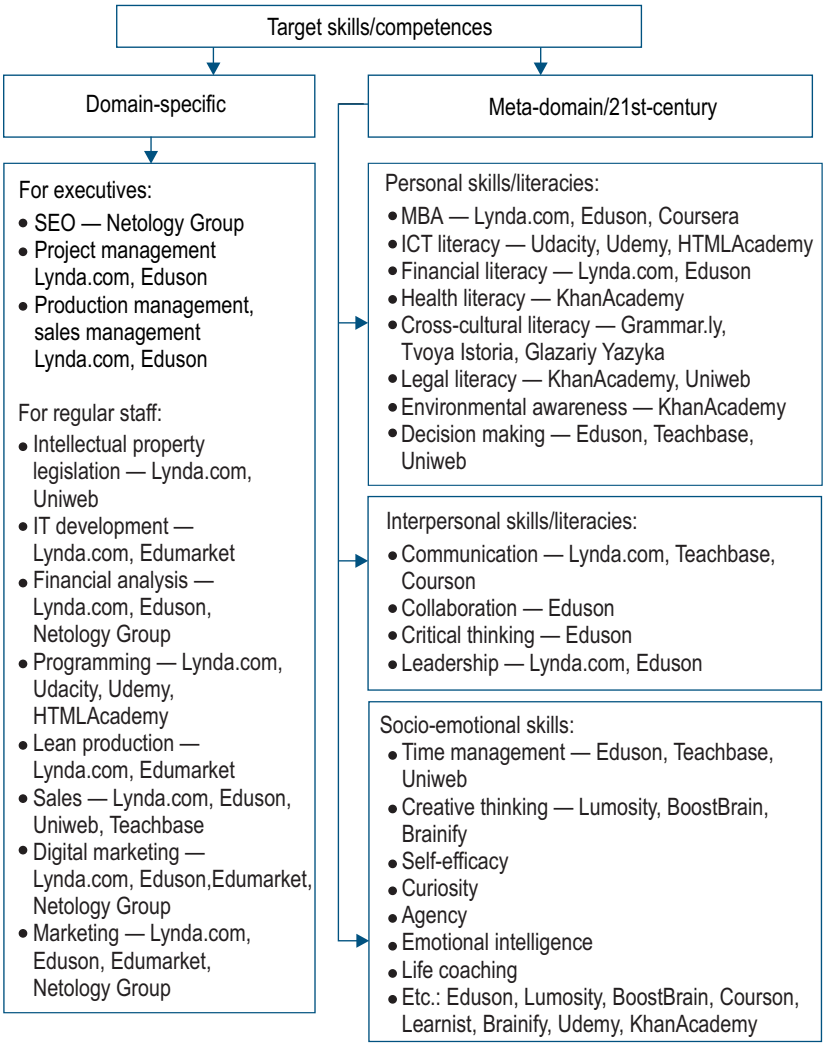
- *General:* Uniweb, Netology-Foxford, Zillio, Lend wings
- *Corporate:* Eduson, Lynda.com, Teachbase, E-Learningcenter, MG-system, Skiliks
- *Youth:* Coursera, KhanAcademy, LektoriumTV, Universarium, Intuit, Lektorium, Otkrytoe Obrazovanie
- *Programming:* HTML Akademia, Cleverbear, Stepic, Proglive, MVAClub
- *Training for exams:* Examer, Maximum, Quentin, YouClever
- *Foreign languages:* Lingualeo, Busuu, Study.ru, Englishtown, Linguist
- *Aggregators:* Edumarket, Besmart, Postnauka, UniverTV, Yarbula, Uchinovoe
- *Preparing for international language exams:* Toeflblog.com, Goodlucktoefl.com, Learn4good.com, ESLpod.com, Splendidspeaking.com

Development of microlearning courses is an independent technology and is carried out with the help of various specialized designers.[81] As a result, a high effect of training is also achieved through the flexible adjustment of the acquired skills to the current tasks of the company.

British Telecommunications (BT) achieved a 10% reduction in customers' recalls after the introduction of adaptive microlearning to enhance the expert knowledge of phone agents. Having introduced microlearning, Ethicon increased the product expertise of medical

[81] For example, <http://skillcup.ru/>.

Figure 3.58. Online CET Opportunities Across Target Skills/Competences and Operational Areas



representatives around the world by 50%. Pharmaceutical company Merck used microlearning to improve employees' knowledge of all sensitive topics and reduce the level of industrial accidents.[82]

3.6.3. Online Resources for Target Groups

An analysis of the market for online courses for adults allows allocating the target categories of the adult population for which electronic educational products are offered (Table 3.2).

Table 3.2. Most Common Online Education Providers, by Categories of the Population

№ п/п	Population Group	Online CET Vendors
1	Youth (career starters)	— Coursera — Universarium — Khan Academy, etc.
2	Developing employees	— Netology Group — Edumarket — Eduson — Lynda.com. — Orther
3	Retirees	— Elderhostel — Inclusion & Training Online Center for the Elderly at ITMO University [*Universitet Tretyego Vozrasta*] — «Serebryanyi Vozrast» Online ICT Academy for the Eldery
4	Migrants	Online CET Center for Labor Migrants
5	People with disabilities	— Online CET Center for Special-needs Individuals — Online ICT Training Center for Visually Impaired Learners

[82] <https://el-blog.ru/7-microlearning-myths/>.

Among multifunctional Russian **academic resources for young people**, one can single out Universarium (www.universarium.org). Programs of the exact and human sciences are leading on its platform. Only 16% of courses concern job skills (for example, there are three programming course, one cooking course, two drawing courses, one design course, etc.). The rest of the courses are related to the acquisition of cross-cutting skills.

Resources for **corporate training** include platforms for mastering skills directly required by companies. The ability to obtain or renew vocational qualifications is provided by several providers at once.

Eduson is a leading Russian service of corporate online training. It is a platform for educational courses on a business topic. Job skills are represented in the volume of 17% of the total number of programs. The rest is constituted by management skills and personal growth, but there is almost no IT expertise. The uniqueness of this platform lies in the fact that training can take place with the use of virtual reality technologies, simulators of cold calls, negotiation situations, and public presentations.

Netology Group offers two-month online workshops, including webinars from experts, practical work, personal tuitions, and subsequent project defense. In parallel, the area of interactive video courses devoted to individual skills is developing. Job skills constitute 48% of the total number of programs, and cross-cutting competences amount to almost 52%. The most significant blocks among job skills are in the IT-sphere.

Lynda.com[83] is a project of continuing professional online education of the same-name company from California (USA). It focuses on courses on the use of computer programs, in particular, graphic editors. Courses are offered in English, German, French, and Spanish.

---

[83] <https://www.lynda.com/?utm_medium=direct&utm_source=linda.com&utm_campaign=url-redirect>.

They last from one to ten hours with a specialization in digital media, as well as in working with IT and business skills. For individuals, the site operates only by subscription, and its cost varies from $20 to $40 per month. The site has an audience of over 4 million users and offers over a thousand courses. The company has educational tracks that consist of several courses and allow getting a new occupation or enhancing existing knowledge. The courses devoted to job skills represent 74% of all courses, and cross-cutting courses amount to only 26%, which indicates a high sectoral orientation of this training segment.

The portal *"Computer technologies for the blind and visually impaired"*[84] *contains* **online resources for persons with disabilities**. It provides advanced technical means for the blind and visually impaired and teaches how to adjust them to the user's needs. The portal for physically disabled people[85] publishes information on social payments and benefits, pensions and aids, as well as possible employment.

Online resources often intercross. For example, sets of programs for migrants may overlap with courses for the youth or people with disabilities.

3.6.4. Electronic Resources Which Help to Develop the Educational Trajectory

An educational trajectory is a personal way of unlocking a person's potential in education aimed at building an employment career in the labor market and personal growth. Tools for navigation of its participants become one of the new elements of the continuing education system in world practice. Currently, there is a possibility of using electronic resources to build such a route.

For example, *the navigator Ploteus* operates in the EU countries.[86] This portal about mobility in Europe provides information, tutorials,

---

[84] <http://www.tiflocomp.ru/>.
[85] <http://www.dislife.ru/>.
[86] <https://ec.europa.eu/ploteus/>.

and recruitment services for any citizen (including migrants) who wish to take advantage of training opportunities to find work in all countries of the European Community. Ploteus helps students, workers, parents, tutors and teachers find information about studying in Europe, including higher and vocational education in the European Union. They may also read about opportunities to participate in exchanges and receive grants, as well as find broad guidelines and information on moving to another country, such as the cost of living or search for housing. Beyond that, Ploteus is integrated with Eures — the European job mobility portal.

The Eures network provides information on workplaces and related training opportunities, as well as pieces of advice and employment services to workers, employers, and all citizens who wish to benefit from freedom of movement. It unites over 850 counselors who are in daily contact with job seekers and employers across Europe. The portal plays a pivotal role in the border regions of Europe, helping to solve the problems arising due to the daily border crossings of workers and employers.

Another independent portal, Euroguidance[87], provides educational support and organizes the activities of counselors of the resources listed above. In fact, as a network structure, Euroguidance provides support for the work of counselors, providing them with documentation, information and training. Currently, the network covers 32 states (27 EU countries, as well as Iceland, Liechtenstein, Norway, Switzerland, and Turkey).

Russian navigation resources carry out the aggregation of information, mainly for short-term educational programs. A monetization strategy that excludes state support determines their presentation in the format of a poster, without the possibility of a conscious choice of educational programs and building a career, depending on the initial level of education and development goals. It initially reduces the number of users and customers and complicates the further development of the project. Among the most famous Russian education navigators, one can note such resources as Navigator

[87] <www.euroguidance.net>.

onlain obucheniya (Navigator of Online Education), Edumarket, Vse treningi (All Trainings), Teoriya i praktika (Theory and Practice), Obrazovanie.rf, Samopoznanie (Self-Understanding), Timepad, and Yandex-afisha.[88]

3.6.5. Resources Which Combine Training and Employment

The convergence of job placement, recruitment and training is a global trend in adult education. Existing experience includes the combination of these functions in both offline and online formats.

In August 2016, Eduson and the HeadHunter portal (the leader of online recruitment in Russia) launched the educational project "HeadHunter Academy." The project is created on the basis of Eduson technologies and educational content, according to the whitelabel scheme. Technically, it is a standalone platform that does not require employees to log in Eduson or HeadHunter. The Academy gives companies access to a library of 600 online courses and a full-fledged control system for staff training. With the help of online courses, employers can train newcomers, develop remote employees, prepare a personnel reserve, conduct reskilling, and tackle other HR tasks.

Concurrently, the main emphasis is placed on training staff in cross-cutting skills aimed at efficient teamwork. Concerning job skills, online learning is more often used in such areas as finance and IT technology. Apparently, it is still easier to acquire profound professional knowledge and applied skills in other restricted professional fields using hybrid models that combine online and offline learning tools.

The OTUS project[89] offers short-term courses for training professional IT skills, providing the best trainees with opportunities to

---

[88] <http://ed-online.ru/; http://edumarket.ru/training/?f_city=386; https://vsetreningi.ru; https://theoryandpractice.ru/courses; www.образование.рф; https://samopoznanie.ru/; https://my.timepad.ru; https://afisha.yandex.ru/>.

[89] <https://otus.ru/>.

achieve employment in specialized IT businesses. The organizers of the project collected a card catalog and typified the vacancies of major players in this sector, and then they created up-to-date courses based on the received requirements. They have concluded agreements with these companies that the best graduates will pass five interviews for relevant positions. Thereby, the company connects interested employers with the most motivated specialists.

3.6.6. Certification

To ensure confidence in the issued certificates confirming the completion of various programs, they are recorded and verified as part of specialized platforms.

The International Qualification and Certification Center[90] was created with the support of UNESCO, and it is a leading international company in the field of certification. The Center provides the opportunity to check the received documents using the electronic platform Certipedia. This publicly available database records the serial numbers of all educational documents issued in the EU since the early 2000s. At the same time, it is an online platform that allows any user to receive information and scroll through documents confirming the qualifications gained.

In Singapore, all issued certificates are checked by a specialized *electronic database e-Cert.*[91] *This e-service also verifies all certificates released in the country, which are converted to electronic certificates (e-Cert). In Denmark, the web portal for providing general information on previous training (Map of my competences*[92]) plays a crucial role. Using online tests, the system allows the user to identify the competences and skills that he already has or that he wants to develop.

In general, the development of systems for recording qualifications will increase the level of issued certificates and will influence

---

[90] <http://www.iqacc.org/>.
[91] <https://e-cert.ssg.gov.sg>.
[92] <www.minkompetencemappe.dk>.

the facilitation of the procedures for recognizing education in online format.

Summing up the review of the primary electronic educational resources, we will mention the most important trends in adult education.

Educational electronic resources that offer adult courses for developing management skills (including MBA programs) and teaching foreign languages, as well as courses for various social competences, achieve a strong position both in the world and in the Russian market. Concerning practical job skills, training in the fundamentals of programming and IT is the most common nowadays. Services for engineering and blue-collar competences are presented in a much smaller volume. It is because of technical complexity of developing courses with the demonstration of the necessary technological details, imitation of processes, and their dynamics. This area requires more expensive 3D training devices and interactive simulators with access to high-capacity Internet networks.

So far, the Russian market offers traditional formats of online courses, providing predominantly broadcasting content. It is technologically difficult to organize real-time feedback, the possibility of in-person communication with the teacher and other students, and individual testing. Beyond that, it is hard to provide statistical information on progress, services for the exchange of documents, educational video games, and simulators with adaptive mechanisms, which especially complicates participation in online learning for senior citizens.

There are no clear navigation tools in the educational space for various categories of users, and it hinders efficient career guidance and choice of programs for the appropriate stages of career development. The system for an independent assessment of acquired skills in online education and the issuance of recognized certificates has not been formed.

Thus, online education cannot yet completely replace offline format in the market for adult education programs. It leaves an exten-

sive prospect for hybrid models combining various components of program navigation, a mixed online and offline learning format, the development of cross-cutting skills, as well as recording the results of mastering educational programs and checking the validity of the issued certificates.

3.7. Training Outcomes and Independent Assessment of Qualifications

Training is always accompanied by a final check of acquired knowledge, skills, and abilities. Such an assessment serves as a mechanism for obtaining feasible information about the level of mastering of the relevant competences. In the meantime, such a final test not only speaks for the results of mastering the program, but also provides the employer (as the customer of the educational program) with information about the acquired knowledge, skills, and abilities, which will be used in the workplace right away. In this case, the issued educational document must be recognized in the professional and sectoral environment of industrialists and entrepreneurs.

3.7.1. Independent Assessment as Confirmation of Qualifications

The system for an independent assessment of acquired knowledge and skills and recognition of education, including that obtained informally, is one of the most crucial incentives for launching the market of continuing education in many countries. It is based on developing, updating, and using of occupational standards that make it possible to ensure that qualifications are better aligned with the expectations of employers and the labor market.[93]

[93] The Ministry of Labor and Social Protection of the Russian Federation carries out the regulation of the system for an independent assessment and development of qualifications, the adoption of occupational standards, as well as training and reskilling of unemployed citizens.

Russia is in the process of developing its National Qualification System. By now, the country has formed a legal framework in the field of independent assessment of qualifications.[94] An independent assessment of the qualifications of employees or persons applying for a certain type of labor activity constitutes a procedure for confirming the compliance of a job seeker's qualifications with the provisions of the occupational standard or qualification requirements established by federal laws and other regulatory legal acts of the Russian Federation. It should be carried out by the qualification assessment center.[95] The participants in the independent system for qualification assessment include (Fig. 3.59):

1) National Council for Vocational Qualifications under the President of the Russian Federation (NCVQ);

2) National Agency for the Development of Qualifications (NADQ);

3) councils for vocational qualifications (CVQ);

4) qualification assessment center (QAC);

5) employers;

6) job seekers; and

7) the federal executive body that exercises the functions of developing and implementing state policy and legal regulation in the world of work.

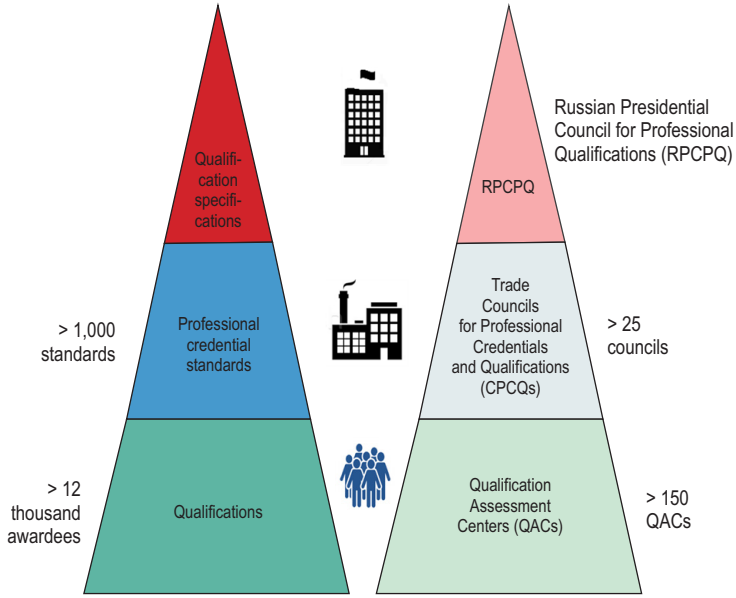
The Council for Vocational Qualifications is created by the decision of the National Council based at all-Russian and other associations of employers. It is empowered to organize an independent assessment of qualifications for a specific type of professional activity.

---

[94] Federal Law No. 238-FZ of July 3, 2016 "On Independent Assessment of Qualifications;" Federal Law No. 239-FZ of July 3, 2016 "On Amendments to the Labor Code of the Russian Federation Arising Out of the Adoption of the Federal Law "On Independent Assessment of Qualifications;"" Federal Law No. 251-FZ of July 3, 2016 "On Amendments to Part Two of the Tax Code of the Russian Federation Arising Out of the Adoption of the Federal Law "On Independent Assessment of Qualifications.""

[95] <www.rta.gov.ru>.

Figure 3.59. Russian National Qualifications Framework



The Council submits the names of qualifications, for compliance with which it is planned to conduct an independent qualification assessment. It approves the requirements for them and assessment tools used by the qualification assessment centers during the professional examination. Beyond that, it empowers organizations to act as qualification assessment centers, makes a decision on the issuance of certificates of competence, and sends the information on the issued certificates to the National Agency for the Development of Qualifications for its inclusion in the register.

Currently, the country has 28 councils for various sectoral vocational qualifications (for example, in aircraft construction, beauty industry, oil and gas complex, health care, construction, and other fields). Under the councils, they have established more than 100 qualification assessment centers, and each of them assesses one thousand of the occupational standards that have been put into effect.[96] *Recognition of qualifications obtained in the workplace is not widespread yet.*

[96] <http://nspkrf.ru/soveti.html>.

The Qualification Assessment Center is a legal entity that has been empowered by the Sectoral Qualification Council to conduct an independent assessment of qualifications, and it is directly involved in this activity. However, the powers of the qualification assessment center cannot be vested in a legal entity that is an educational organization and (or) includes educational organizations or their unions (associations, communities) as a component of its founders. Meanwhile, it does not exclude the placement of specialized examination sites on their basis. The requirements for qualification assessment centers are established by order of the Ministry of Labor of Russia.[97]

An independent assessment of qualifications is carried out in the form of a professional examination, organized by the qualification assessment center according to the procedure established by the Government of the Russian Federation.[98] The examination is conducted at the initiative of the applicant and the expense of the applicant or other individuals and legal entities, or by the assignment of the employer and at the expense of the employer according to the procedure prescribed by labor legislation. A citizen passing a qualification examination may receive state support in the form of partial compensation for its cost. The stages of the qualification assessment process are shown in Fig. 3.60.

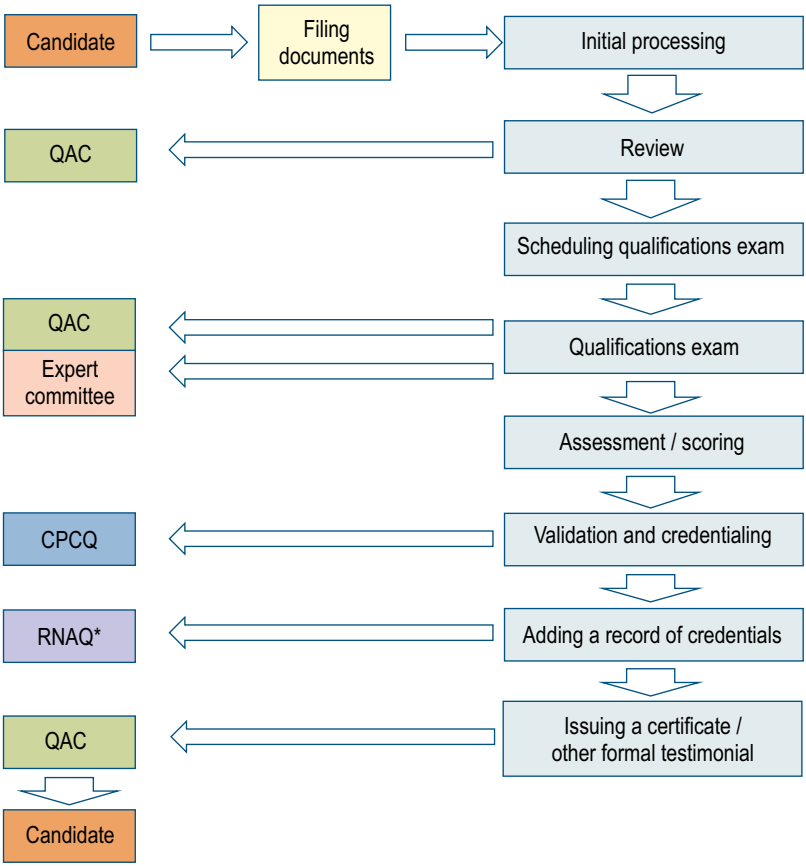
To pass the exam, the applicant submits to the qualification assessment center a written application in the prescribed format, as well as other documents necessary for passing the examination in the appropriate qualification. Based on the results of the examination, the qualification assessment center (within 30 days) issues a certificate of qualification in the prescribed format to the applicant. In case of receiving an unsatisfac-

---

[97] "Ob utverzhdenii trebovaniy k tsentram otsenki kvalifikatsii..." Prikaz Ministerstva truda I sotsialnoy zashchity Rossiyskoy Federatsii ot 19.12.2016, No. 759n. <https://nark.ru/upload/iblock/01a/01a3039443d2df2df40c770145eae63e.pdf>.

[98] The rules for conducting an independent assessment of qualifications in the form of a professional examination by the qualification assessment center were approved by the Government Decree of November 16, 2016, No. 1204.

Figure 3.60. Qualification Certification Model Flow



* RNAQ – Russian National Agency for Qualifications

Source: <https://nark.ru/upload/iblock/01a/01a3039443d2df2df40c770145eae63e.pdf>.

tory mark, it issues a statement on passing the professional examination, including recommendations for the applicant. The National Agency for the Development of Qualifications enters information on the issued certificates of qualifications in the relevant register.

In 2016, 115 qualification assessment centers had 125 examination sites in 46 constituent entities of the Russian Federation (53%). Within the Federal Law "On Independent Assessment of Qualifications," it is planned to create at least 200 new qualification assessment centers by 2025, including branches (and specifically at least two in each region). At the same time, each center should be provided with funds for technological support (simulators and training devices), as well as methodological and personnel support for the assessment procedure.

With the deployment of a system for independent assessment and recognition of qualifications in the Russian Federation, the scale of professional assessment of qualifications will become the fundamental characteristic of the effectiveness of the continuous education system. According to 2017 data, about 12,000 procedures of independent assessment of qualifications have been carried out in the country so far.[99]

Countries with an established system for assessment and recognition of professional qualifications conduct significantly more assessment procedures, although they have a considerably smaller population (over 50,000 procedures in France, about 25,000–30,000 in Denmark, 12,000 in Norway, and over 8,000 in the Netherlands per year).[100] The scope of the assessment grows with an increase in the number of migrants in these countries. They are the most active participants in the system of acquiring and confirming professional qualifications. Planned number of citizens undergoing qualification assessment in the Russian Federation should amount up to 50,000 people per year, starting from 2025.[101]

---

[99] Register of information on conducting an independent qualification assessment. <https://nok-nark.ru>.

[100] Linking recognition practices and national qualifications frameworks. International benchmarking of experiences and strategies on the recognition, validation and accreditation (RVA) of non-formal and informal learning. Edited by Madhu Singh and Ruud Duvekot. UNESCO Institute for Lifelong Learning. UNESCO Institute for Lifelong Learning, Hamburg, Germany, 2013.

[101] <https://nark.ru/upload/iblock/01a/01a3039443d2df2df40c770145eae63e.pdf>.

As we can see, the system of independent assessment of qualifications is becoming one of the key labor market's signals about the demanded content of adult education programs. The more people pass independent confirmation of their qualifications and use it for career growth, the more significant programs providing real mastering of skills become in the educational market.

3.7.2. Independent Assessment as an Incentive for Development

The current assessment of competences plays one of the central parts in the arsenal of an HR manager and a company's chief executive. This proven approach provides a reasonable and reliable answer to a question that is crucial for any company: will a given employee be economically successful for the company in a specific activity in a specific position or in solving similar problems? Digital technologies, which have become widespread in this area, allow not only assessing the necessary competencies, but also associating the assessment results with HR record management, certification, and decision-making concerning the development of employee's skills. Several such tools for online assessment and personnel development are discussed below.

PROACTION[102] is a tool for online personnel assessment that allows determining the competences and abilities of the applicant before the interview and makes it possible to verify the employees of the organization. This resource is distinguished by the fact that participants can pass tests without registration, and free use is available for two days.

Among the resources that offer companies tools for personnel assessment, it is necessary to note the British company **CEB SHL**[103] — a leader in objective personnel assessment and talent management. The primary objective of SHL was to extend test tools for personnel

[102] <https://proaction.pro/>.
[103] <https://www.shl.ru/>.

assessment to Russian companies and demonstrate their efficiency for the business. Over the years, more than 5,000 personnel assessment projects have been implemented in the country. Approximately 15,000 HR and line managers of companies have received SHL training and certification.

Mirapolis Assessment and Performance is an online resource that is also geared towards employers and HR professionals.[104] It is a system for assessing personnel by competences, goals, KPIs, and tasks. It allows forming objective knowledge about employees and units through internal assessment, including assessment with the "360-degree approach." Beyond that, this system provides the manager with information for making personnel decisions in order to improve business efficiency.

In recent years, companies have increasingly begun to ask another question: will an employee be able to perform work that is significantly different from the current one in a few years? To answer this question, **ECOPSY Consulting** has created tools for assessing the potential of employees. Potential refers to a set of employee's characteristics that predict his success in tackling new job tasks over the medium and long term. The company has developed a tool[105] that evaluates an employee in a situation of promotion (vertical rotation) or change of functionality (horizontal rotation).

Specialists of HR departments actively use the tools developed by **the Human Technologies HR-Laboratory**.[106] The laboratory was created in 1992 at the premises of the Faculty of Psychology of the Lomonosov Moscow State University as one of the innovative enterprises of the MSU Science Park.

They have such tests for adults as Business Profile, which consists of three blocks, including determination of character type, level of motivation, and intelligence. It is aimed at persons with higher education, holding or

---

104 <http://www.mirapolis.ru/assessment-performance>.
105 <http://www.ecopsy.ru>.
106 <http://www.ht.ru/cms/>.

applying for positions of skilled performers. After passing the test, the system issues a full report on competences and professional potential and predicts the behavior of a person in a team. 11 LF is a test designed to assess the personal qualities of adults.[107]

SMART-monitoring (Skills Monitoring of Adults for Research and Transformation) is a test system developed on the basis of the OECD international approach at the Institute of Education of NRU Higher School of Economics.[108] It is used by organizations to assess the cognitive skills in literacy, numeracy, and PSTRE-problem solving in technology rich-environments, with the subsequent identification of high-potential employees and risk groups on their basis. The level of social and emotional personality features is assessed based on Big Five — scrupulosity, friendliness, extraversion, open-mindedness, and emotional stability. Beyond that, it identifies the frequency of high performance work practices in the workplace by both employees and line managers of companies, including their needs for appropriate training.

It should be noted that the assessment of competences is increasingly becoming less compulsory. If earlier the state, represented by the employer, monitored the employee and his both professional and personal skills, the development of the principles of freedom and private initiative became the basis for expanding the tools of self-assessment. Self-assessment allows determining the proficiency in certain skills necessary for proactive behavior in society and professional fulfillment. Depending on the results obtained, it makes it possible to choose the appropriate and optimal educational course to eliminate the necessary deficit. In this paradigm, the population increasingly considers education and training as a "cure for failure,"

---

[107] High performance workplaces: Background paper for the Third European Company Survey. <www.eurofound.europa.eu/sites/default/files/ef_files/surveys/ecs/2013/documents/ecs2013docs/EF1303EN.pdf>; Dublin, Eurofound, 2013.

[108] <www.skills-online.ru>.

which must be used in the event of poor professional or personal health. The emerging open online resources allow a potential employee (citizen) to check the level of their skills in a particular field of knowledge independently, that is, to do it before contacting an employer.

Total dictation is one of the most common actions to assess the reading literacy and knowledge of the Russian language by the Russian population. It is designed to show that being literate is crucial for every person, to convince that studying Russian is not easy, but exciting and useful, and to unite everyone who can or wants to write and speak Russian.[109]

HeadHunter Talent Assessment[110] offers to use tools designed for both the employer and the job seeker. They include:

— a test of verbal abilities, assessing the level of logical thinking, analytical skills, and the ability to process information;

— a questionnaire for identifying universal competences, which allows determining the inclinations, character features and attitudes of the job seeker in connection with situations that may occur in the workplace; and

— a test of numerical abilities, which allows determining the degree of assimilation of numerical information and the ability to learn new things.

Depending on the results of self-assessment, the job seeker can independently choose the required online educational program.

The use of an objective assessment of competences (after completing adult educational programs) undoubtedly shifts the emphasis of demand from traditional teaching to the following highly efficient forms of mastering knowledge and skills. They include self-education, online courses, on-the-job training from managers and colleagues, or classes under the guidance of special mentors and coaches.

---

109 <https://totaldict.ru>.

110 <https://hh.ru/>.

Fundamental reduction of training costs and acceleration of mastering new skills make non-formal and informal ways of education (in combination with the independent assessment) fundamentally new components of modern adult education.

Chapter 4

How Adult Education Improves Economic Well-Being and Social Sustainability of Regions

Many participants of modern trainings often report a feeling of elation after completing them. They want to build their activities in a new way, in accordance with the newly acquired knowledge, and they have a desire to become more efficient and successful. Professional development and on-the-job training inspire employees to make positive changes in their daily lives and are usually perceived as a positive event.[1]

Igor Dudnik (entrepreneur, consultant, member of the board of directors in CSJS Farfor Verbilok) notes, "According to our observations confirmed by numbers, the volume of sales increases by an average of 10–15% after active training of trade representatives that lasts for 2–3 days. It is a fixed figure that we are focusing on."[2]

---

[1] *Vesnin V.R.* Prakticheskiy menedzhment personala. M., 2014.

[2] Postavshchik, kliyent, personal — tri slagaemykh uspekha TD «Rusimport» // Upravlenie personalom. 2002. No. 8. P. 6–14. <http://www.logistics.ru/9/24/i20_3065.htm>.

However, the effect of adult education certainly lies not only in this personal feeling. Staff training is a key factor in increasing labor productivity, which has been pointed out by many researchers.[3] The bulk of manufacturing enterprises use various types of modernization of Japanese experience for systemic changes in this area, namely, the Toyota approach[4], which is considered a generally acknowledged standard for organizing production processes and training personnel in the workplace. The Western adaptation of the Japanese production system was called *Lean production*, and this concept began to be used in Russia as well.[5] Organizations implement ISO[6] international quality management systems and train employees in the practical application of the Lean concept, aimed at eliminating losses, minimizing costs, and improving quality. Meanwhile, they ensure a continuous intra-organizational exchange of acquired skills and accumulated knowledge. We should note a key factor in the implementation of such changes. It is training of not only professional skills of adults, but also of social and emotional skills of behavior in a highly efficient organization.

The adopted priority program "Increasing Labor Productivity and Supporting Employment in the Russian Federation" also notes the significance of increasing labor productivity through the development of a wide range of employees' competences. The Federal Center of Competence in Labor Productivity[7], created by order of the

---

[3] *Mankiw N., Gregory D., Weil D.* A contribution to the empirics of economic growth // Quarterly Journal of Economics. 1992. Vol. 107. No. 2. P. 407–437; *Senge P.* The Fifth Discipline: The art and practice of the learning organization. N.Y.: Double Day, 1994.

[4] *Ono T.* Production system of Toyota. Going away from mass production. Moskow, 2008.

[5] *Steinlicht C.L.* Lean Production and the organizational life cycle: A survey of Lean tool effectiveness in young and mature organizations // Organization Studies. 2010. Vol. 15. No. 3. P. 7–28.

[6] International Organization for Standardization. <https://www.iso.org/ru/home.html>.

[7] Government of Russia. Government Project Office. <Http://government.ru/projects/selection/668/>.

government, aims to promote the introduction of organizational innovations in production processes. Beyond that, it should be conducive to the development of systems for further training of personnel, the dissemination of knowledge in the field of labor productivity, the acquisition of industry-specific competencies by employees, the application of the best international practices in personnel training, and the improvement of the mechanism for obtaining state support by enterprises.

In this chapter, we will consider the principal factors influencing the educational activity of working citizens and situations when companies begin to resort to training. Beyond that, we will show how objectively observed positive learning outcomes can have an impact on improving the economic indicators of the development of enterprises and the region as a whole.

4.1. Adult Education and Its Contribution to Economic Growth

Modern consideration of the contribution of education to economic growth is based on the theory of human capital, developed by Theodore Schultz and Gary Becker.[8] According to conventional wisdom, *human capital* is a stock of knowledge, skills, and motivations that everyone has. The costs connected with human capital formation are *investments* because they involve their return to the trainees, their families, or employers in the course of work. Investments in human capital can include education, accumulation of operational experience, health support, geographic mobility, information retrieval, etc.

Becker divided investments in human capital in terms of skills into *general and specific*. During general training, the employee acquires

[8] *Schultz Th.W.* Investment in human capital: The role of education and of research. N.Y., 1971; *Becker G.S.* Human Capital and Personal Distribution of Income: An analytical approach // Becker G.S. Human Capital. 2nd ed. N.Y.: Columbia University Press, 1975. P. 94–144.

knowledge and skills that can be applied in many other firms. The employee pays for such training on his own.[9] Specialized training includes knowledge and skills that are attractive for a particular enterprise (production process or corporate culture). Therefore, it will be paid for by the enterprise where the worker is employed and which will receive the corresponding income.[10] Employees acquire and update special skills due to continuing learning and development and on-the-job training programs in direct production of goods or provision of services.

If traditional capital contributes only to the accumulation of income, an increase in human capital leads to an increase in growth rates. According to E. Denison's calculations[11], the increase in per capita income in the United States during the post-war period was 15–30% due to the increase in the educational level of the labor force. It is also confirmed by the experience of such countries as Hong Kong, Singapore, and South Korea.

Further development of the theory of the education contribution to economic growth belongs to E. Hanushek. He drew attention to the fact that economic results are influenced not so much by the duration of training or the formally achieved level of education, but by the quality of training, or rather, the resulting cognitive skills that correspond to the appropriate development of a person's mental activity. Basing on statistical data, he managed to show that the cognitive

---

[9] D. Acemoglu and J.-S. Pischke show that enterprises can also invest in general training in the face of intentional understatement of qualification award that reduces incentives of skilled workers for inter-firm labor mobility. See: *Acemoglu D., Pischke J.-S.* Beyond Becker: Training in Imperfect Labor Markets // Economic Journal. 1999. Vol. 109. Issue 453. P. F112–F142; *Idem*. The structure of wage and investment in general training // Journal of Political Economy. 1999. Vol. 107. No. 3. P. 539–572.

[10] *Kapelyushnikov R.I.* Ekonomicheskie ocherki: metodologiya, instituty, chelovecheskiy capital. M.: HSE Univ., 2016.

[11] *Denison E.F.* The sources of economic growth in the United States and the alternatives before us. N.Y., 1962.

skills of the population ("cognitive capital"), and not just the level of education or the number of years of training, are associated with individual incomes, their distribution, and economic growth.[12]

Heckman and Kautz[13] identified acquisition of social and emotional (non-cognitive) skills as part of education influencing economic outcomes.[14] Empirical evidence confirms their impact on the occupational status and income of citizens.[15] Low socio-emotional levels represent a barrier to the efficient use of cognitive skills, while high socio-emotional competences promote learning and better use of them. Non-cognitive skills are also a foundation for physical and mental well-being, successful employment, and life satisfaction. Taught through mentoring, they effectively motivate the employee to acquire work-related competencies and provide discipline and control of troubled adolescents and young employees.

A thorough analysis of the problems of industrial training was given in the works of J. Mincer. According to his estimates, investment in on-the-job training is comparable to investment in formal education. Education in an enterprise environment not only transfers skills, but also simultaneously tests the quality of their acquisition

---

[12] *Hanushek E., Woessman L.* The role of education quality in economic growth // Education Matters. 2007. No. 3. P. 115–185. <https://www.researchgate.net/publication/44838806_The_Role_of_education_quality_for_economic_growth>.

[13] *Heckman J., Kautz T.* Hard evidence on soft skills // Labor economics. 2012. Vol. 19. No. 4. P. 451–464. <http://dx.doi.org/10.3386/w18121>; *Idem*. Fostering and measuring skills: Interventions that improve character and cognition // National Bureau of Economic Research, 2013. No. w19656. <http://dx.doi.org/10.3386/w19656>.

[14] They include self-discipline, perseverance, motivation, communication skills, tolerance, empathy, resilience, the ability to plan and manage projects, leadership skills, innovation, risk, assessment, and understanding of various forms of expression of ideas, experiences, and emotions.

[15] *Kankaraš M.* Personality matters: Relevance and assessment of personality characteristics // OECD Education Working Papers No. 157. OECD Publishing, 2017. <http://dx.doi.org/10.1787/8a294376-en>.

and use. Therefore, the rates of its benefit are not inferior to the rates of benefit from formal education.[16]

The emergence of a large number of independent educational organizations, as well as the intensification of the activities of consulting companies implementing short-term seminars and specialized courses, indicate that the viability of such educational activities in the private sector is not lower than in other areas of entrepreneurship. For example, in the USA, the viability of educational activities was 10–15% higher than the viability of other types of commercial activities in the 1960s.

Economic efficiency of adult education providers is also confirmed by Russian statistics on the increase in the number of independent educational organizations in the market of continuing education programs (see Chapter 3).

Stiglitz and Greenwald surveyed the mechanism through which per capita incomes increase[17]. They noticed that any country has opportunities to improve labor productivity by simply eliminating the distinction between technologically and organizationally advanced enterprises and mid-level companies. Thus, much of the growth in a country's development stems from overcoming the gap in the skill level. With the growth of cognitive capabilities, labor productivity increases not so much due to the intensity of labor, but due to the spread of knowledge about new technical achievements and efficient organization of production. In this case, technology transfer is carried out together with skills training. Consequently, as far as the population of a particular country turns out to be a "learning society" concerning new technologies, so the transfer of innovations between its subjects will be so efficient. Thus, free investment resources will create a demand for technology transfer and training in the learning community.

---

[16] *Mincer J.* The distribution of labor incomes: A survey with special reference to the human capital approach // Journal of Economic Literature. 1970. Vol. 8. No. 1. P. 1–26; *Idem.* Schooling, experience and earnings. N.Y., 1975.

[17] *Greenwald B.C., Stiglitz J.E.* Industrial Policies, the creation of a learning society, and economic development // International Economic Association / World Bank Industrial Policy Roundtable in Washington, DC. 2012.

The "knowledge leakage" is especially efficient in the methods of organizing production. Store and money management practices have an impact on virtually every company. Production or assembling lines working under just-in-time technology are examples of manufacturing processes that have influenced many industries. Thus, the improvement of skills (methods) in one sector has benefits for other sectors that use similar skills. That is why we see a significant number of such management skills programs in the composition of the transferable skills at corporate universities, as well as on online platforms.

In general, opportunities and incentives for accumulating total human capital are more significant in large industrial enterprises with a wide range of interdependent activities than in small, scattered, and narrowly focused small businesses. It finds good agreement with the significantly lower education and training coverage of workers in the small business sector (agricultural and handicraft enterprises, service sector, foodservice industry, and field-service area). We noted them on the back of an analysis of Russian statistical data.[18]

The survey shows that workers with higher levels of education are easier and faster to adapt to new technologies and are more open to their application on their jobs.[19] It is also essential that societies that have developed a favorable environment for the collection and transfer of external knowledge eventually start to independently generate new knowledge and technologies, which provides an even higher level of economic growth.

---

[18] *Korshunov I.A., Kuzheleva K.S., Grachev B.A., Sergeyev K.A.* Obuchenie i obrazovanie vzroslykh: vostrebovannye programmy, vozrastnaya i otraslevaya struktury // Fakty obrazovaniya. M.: HSE Univ., 2018. No. 1 (16).

[19] *Dohmen D., Cristobal L.V., Yelubaeva G.* The macro-economic benefits of adult learning. FiBS — Forschungsinstitut für Bildungs-und Sozialökonomie. Research Institute for the Economics of Education and Social Affairs. <http://2016.economicsofeducation.com/user/pdfsesiones/171.pdf>.

Simon Kuznets, one of the leading economists in the field of empirical research of economic growth, notes in his works that the impetus for growth arises in light of the new potential opened up by technological progress. However, if society wants to use this potential, it must change its institutional structure, including, inter alia, the system for the transfer of knowledge and technology.[20] Unlike basic education, it is training under continuing education programs or on-the-job that is directly related to the transfer and use of more productive technologies. Sectoral structure of adult training and education confirms the greatest activity of adults in sectors with a high volume of technological renewal of production, as well as in areas that ensure human life and health (see Chapter 3).

Thus, indicators of adult continuing education coverage are closely intertwined with the direct output of goods and services. Beyond that, they turn out to be indicators of the maturity of a learning society that works to transfer new technologies into production, which Stiglitz and Greenwald mention. Therefore, we find straightforward interconnections between the continuing learning and development coverage and gross domestic product per capita, which are not so clearly observed for interrelations with secondary vocational and higher education.

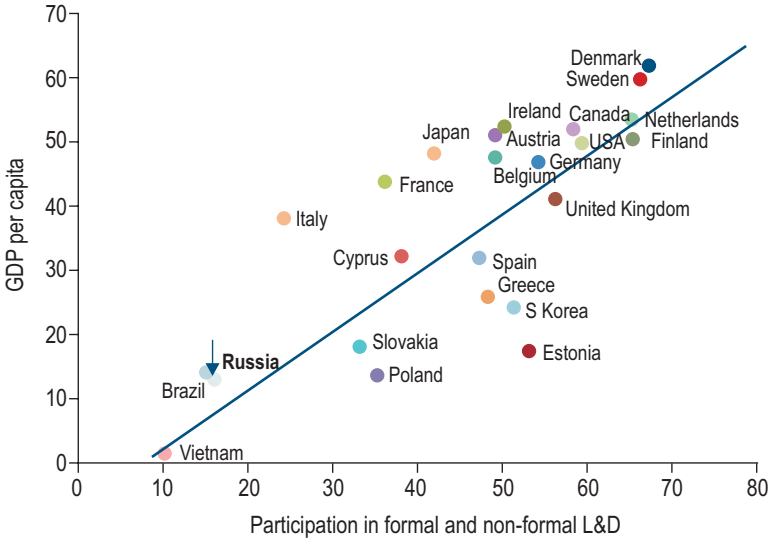
To date, international studies have widely used the experience of comparing statistical data on the coverage of grown-ups with adult education with economic indicators of the development of territories. We estimated the correlation between the coverage of the population aged 25–64 with formal and continuing education and gross domestic product per capita on the back of statistical data from Eurostat, PIAAC, and Rosstat (Fig. 4.1).

It was found that this correlation is very stable and linear. It is observed both in the OECD countries (Fig. 4.1) and in the EU countries (Fig. 4.2), with correlation coefficients of 0.7 and 0.8, respectively.

---

[20] *Abramovitz M.* Simon Kuznets (1901–1985) // The Journal of Economic History. 1986. Vol. 46. No. 1. P. 241–246.

Figure 4.1. How GDP per Capita (USD'000) Is Related to Participation in Formal and Non-Formal Opportunities of Adult Learning (%), Russia vs OECD Nations, 2011

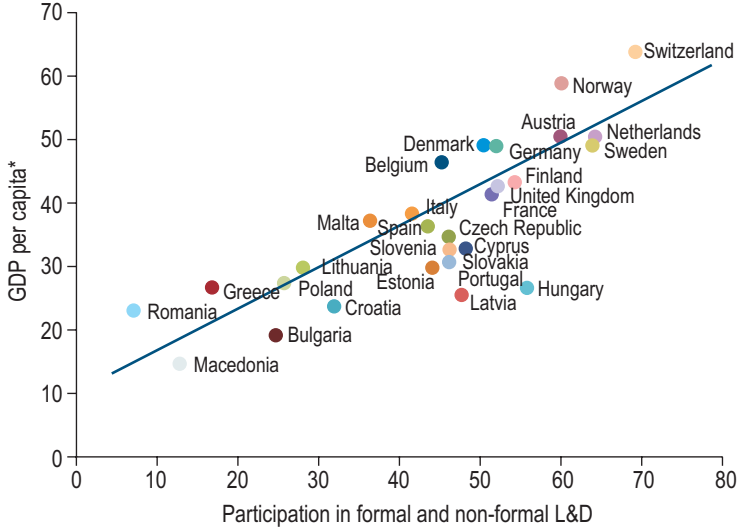


Source: GDP per capita (current US$). <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>.

Studies carried out in EU countries show that the nature of this correlation does not depend on the methodology used. Taking into account participation in educational programs within 12 months before the survey (Fig. 4.2) and 4 months before the survey (Fig. 4.3), the correlation remains stable at 0.8 level. As will be shown below, this trend is also observed in relation to the constituent entities of the Russian Federation.

Comparison of data from European statistical offices reveals the correlation between the coverage of the population with formal and continuing education and the volume of investment in gross fixed capital per capita (Fig. 4.4.) In countries with a low volume of investment, the coverage of the population with continuing education increases linearly with investment growth. However, this dependence ceases to

Figure 4.2. How GDP per Capita (USD'000) Is Related to Participation in Formal and Non-Formal Opportunities of Adult Learning (%) in Twelve Months, Russia vs OECD Nations, 2016



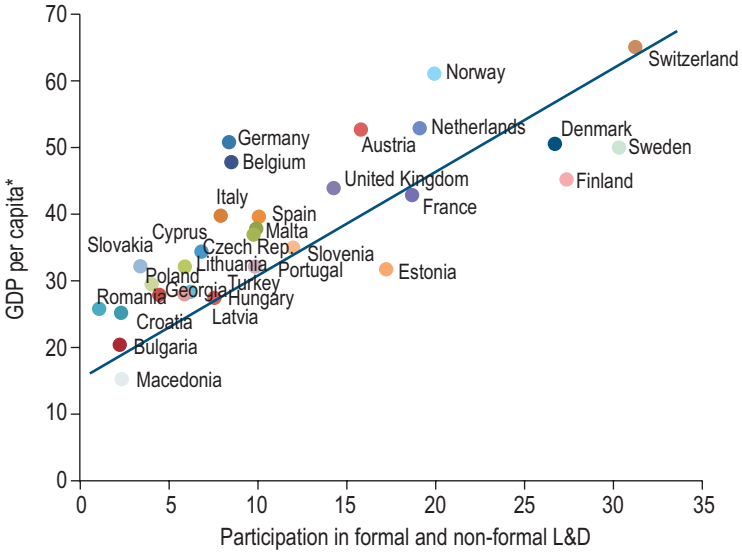
*Indicated in terms of purchasing power parity (PPP). <https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.CD>.

Source: Eurostat Statistics Explained. Education and Training. <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_aes_100&lang=en>.

be stable when the volume of investments exceeds 8,000 dollars per capita. It means putting additional factors in action, and most likely, they will have the form of government measures to stimulate education and enlightenment, influencing the decisions of employers and employees regarding the undergoing of educational programs.

The Russian population, which is more actively involved in training, also performs better and achieves higher economic performance (Fig. 4.5). Linear dependencies of gross regional product (GRP) per capita in different regions and the coverage of adults with education and training are observed in all labor force surveys in 2010, 2013, and

Figure 4.3. How GDP per Capita (USD'000) Is Related to Participation in Formal and Non-Formal Opportunities of Adult Learning (%) in Four Weeks, Russia vs OECD Nations, 2017



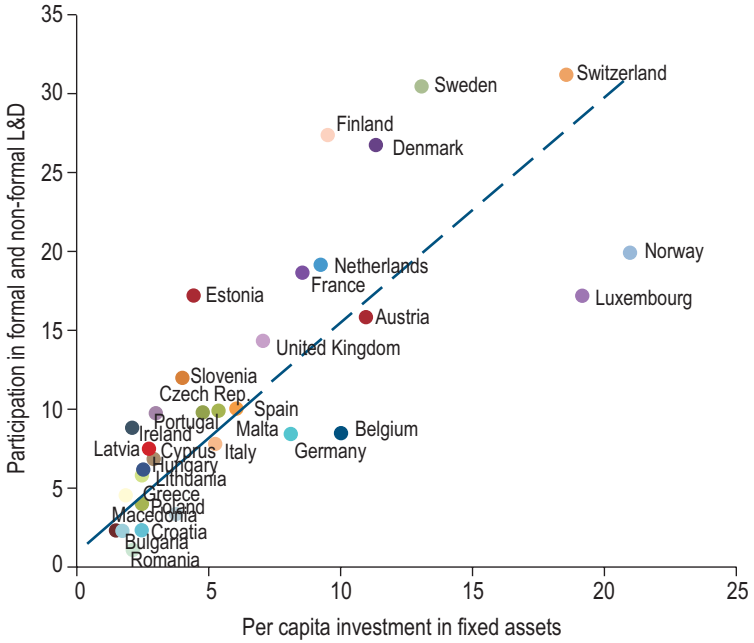
* See footnote to Fig. 4.2.

Source: Eurostat. Participation rate in education and training (last 4 weeks) by sex and age. <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_lfs_01&lang=en>.

2016. As for 63 regions, the interrelation between GRP and coverage has a correlation coefficient with a linear dependence of more than 0.8.

On the one hand, a range of deviations are explained by a higher level of government participation in adult education, and on the other, by the active involvement of an external labor force that is trained outside the territory and participates in production processes on a rotational basis. It should be involved through special salary benefits. Thus, we identified the regions of Eastern Siberia and the Far East as a separate trend that is characteristic of all observation periods (Fig. 4.6).

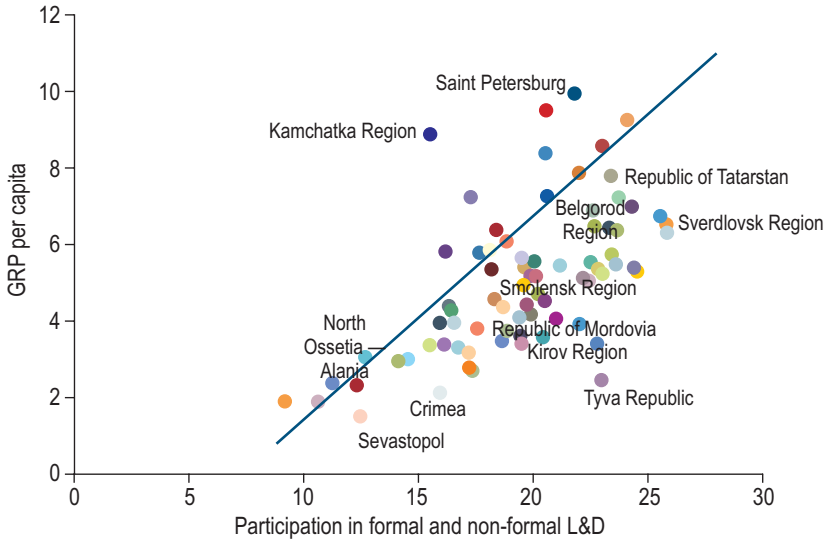
Figure 4.4. How Participation in Formal and Non-Formal Opportunities of Adult Learning (%) Is Related to Fixed Capital Investments per Capita (USD'000), EU, 2017



Sources: Eurostat. Participation rate in education and training (last 4 weeks) by sex and age. <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_lfs_01&lang=en>; Gross fixed capital formation. <http://data.worldbank.org/indicator/NE.GDI.FTOT.CD>.

The dynamics of population coverage with adult education and the current economic situation in the entire country are linearly interrelated. Fig. 4.7 shows the correlation between GDP per capita and the adult population coverage with formal and continuing learning and development in Russia in 2006–2016. High economic performance of the entire country is achieved due to more skilled labor. Gross regional product per capita and the coverage of adults with education and training have a close interrelation, as evidenced by the high coefficient of linear correlation (0.8).

Figure 4.5. How GRP per Capita (USD'000) Is Related to Participation in Formal and Non-Formal Opportunities of Adult Learning (%) in Select Areas of Russia, in Twelve Months, 2016

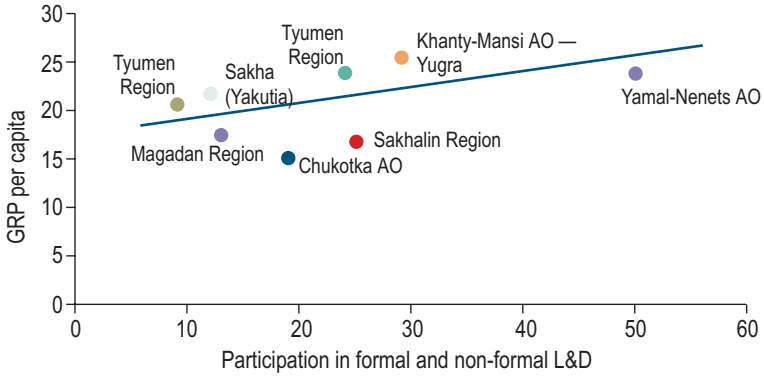


Sources: Pokazateli dlya monitoringa otsenki effektivnosti deyatelnosti subyektov Rossiyskoy Federatsii / Rosstat <http://www.gks.ru/free_doc/new_site/rosstat/pok-monitor/pok-monitor.html>; Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016 / Rosstat. M., 2017.

It should be noted that for other levels of education (higher and secondary vocational), such a correlation between the scale of training and the economic indicators of the territories is not observed. There is also no interrelation between the coverage of adults with education and the economic indicators of federal districts. Most likely, it is explained by the fact that the latter are not sufficiently economically related entities.

The presence of stable correlations between the coverage of the working population with programs of continuing learning and development and the gross regional product supports the assumption

Figure 4.6. How GRP per Capita (USD'000) Is Related to Participation in Formal and Non-Formal Opportunities of Adult Learning (%) in Russia's Far East and Siberia, 2016



Sources: Pokazateli dlya monitoringa otsenki effektivnosti deyatelnosti subyektov Rossiyskoy Federatsii / Rosstat <http://www.gks.ru/free_doc/new_site/rosstat/pok-monitor/pok-monitor.html>; Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016 / Rosstat. M., 2017.

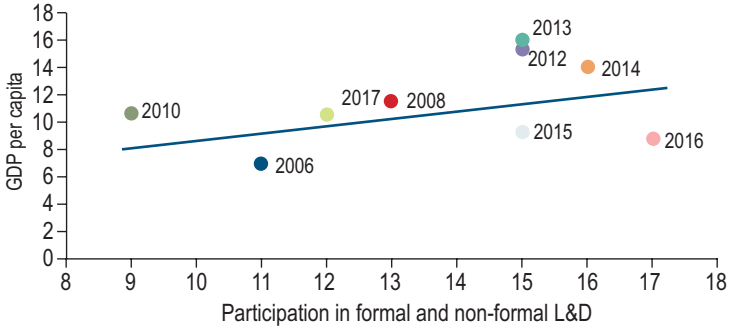
that adult education is an integral part of the material production of goods and the provision of services.

Stiglitz and Greenwald[21] point out that since markets are inefficient in the production and distribution of public goods, the government must participate in the transfer of knowledge within society. The government promotes technology transfer by co-financing the training of employees in cooperation with employers. By implementing labor mobility, employees transfer technologies to new companies.

Free investment resources most likely create the demand for the transfer of technology, and therefore related skills and training. To identify the factors that stimulate the undergoing of training, let

[21] *Greenwald B.C., Stiglitz J.E.* Industrial Policies, the creation of a learning society, and economic development // International Economic Association / World Bank Industrial Policy Roundtable in Washington, DC. 2012.

Figure 4.7. Change in Correlation between GDP per Capita (RUB'000) and Participation in Formal and Non-Formal Opportunities of Adult Learning (%) in Russia, Between 2006 and 2017



Sources: GDP per capita. <http://data.worldbank.org/indicator/NY.GDP. PCAP. CD>; Okhvat vzroslogo naseleniya nepreryvnym obrazovaniem // Monitoring ekonomiki obrazovaniya. HSE Univ., 2016. <http: www.memo.hse.ru/ind>.

us consider the reason for an increase in the economic efficiency of trained workers. One can see two principle possibilities (Fig. 4.8).

First, the new skill allows new technology to be used in the production process. If such a technology was introduced at the enterprise (and investments in gross fixed capital were made), most likely, training was already planned as part of the investment budget. Both the existing personnel and the employees who will be rehired for production have to be trained and retrained (Fig. 4.9). The company hires and trains personnel in case of creating a new enterprise, especially when localizing the units of large Russian and foreign transnational corporations.[22] The need for new job skills of employees is determined by the decision of the company's management to update technology and launch the appropriate investment processes.

[22] *Korshunov I.A., Gaponova O.S.* Nepreryvnoe obrazovanie vzroslykh v kontekste ekonomicheskogo razvitiya territoriy i kachestva gosudarstvennogo upravleniya // Voprosy obrazovaniya. 2017. No. 4. P. 36–59.

Figure 4.8. How Investment in Soft and Hard Skills Drives Returns on Labor, Innovation, and Growth

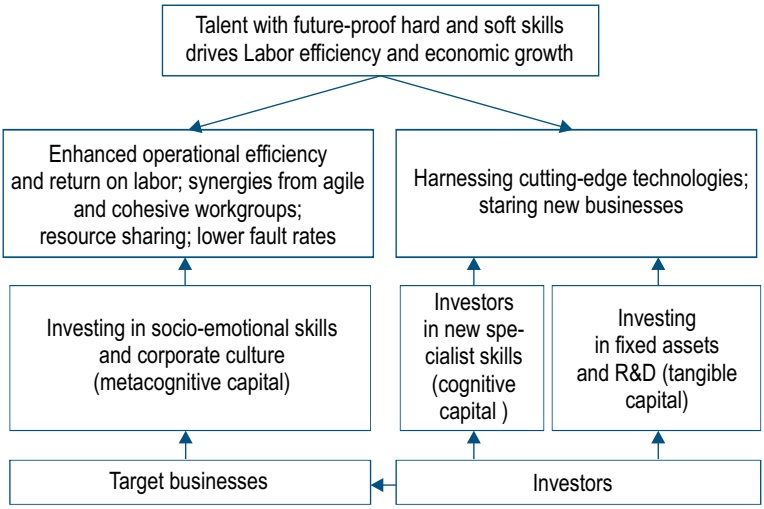
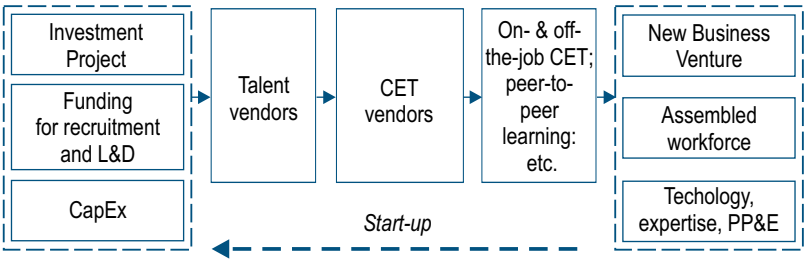


Figure 4.9. Turning Business Plan into Viable Startup: Role of Corporate Learning and Development



Second, trained people work faster, use resources more efficiently, and allow fewer losses and rejects. They try to increase the efficiency of workplaces, but do it within the framework of an already defined technological process. In this case, employers make investments in changing their organizational behavior, a system of motivation, incentives and support, and corporate culture, that is,

primarily in the social and emotional (non-cognitive) skills of employees. Such costs are lower and seem reasonable when the company has decided on the baseline technologies and left the phase of active investment processes.

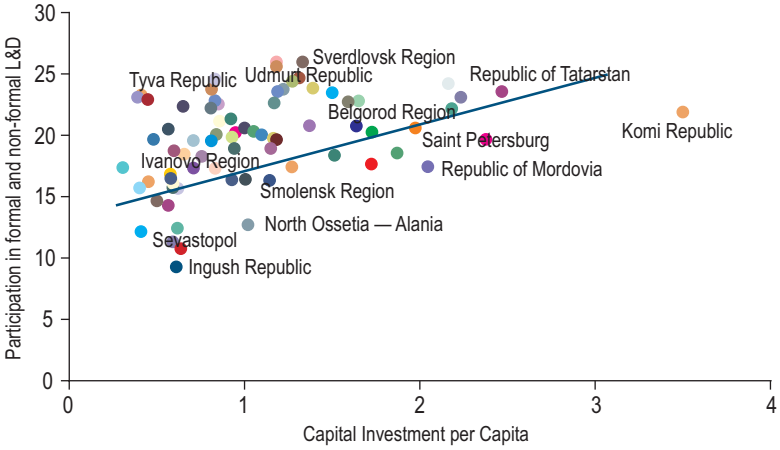
Thus, in the absence of other incentives (for example, ambitious government programs), it is investments aimed at creating new production facilities (investments in gross fixed capital) that can be the source of the most extensive training.

In the Russian Federation, the government is still very passive in the process of retraining adults. Therefore, the activity of investors who create new production facilities is the key factor which determines the scale of adult education. The dependence of adult education coverage on the volume of investment in gross fixed capital has a stable linear character for the entire set of Russian regions.

The study of empirical data confirms this hypothesis in the context of the constituent entities of the Russian Federation (Fig. 4.10). For a set of 50 regions, there is a linear dependence with a correlation coefficient of 0.7. As in the case of correlation with GRP, we segregated regions with "northern" benefits in a separate cluster, typical for all observation periods. These benefits overestimate the total amount of investment but retain a linear correlation with the absolute volume of investment per capita. These regions include the Republic of Sakha (Yakutia), Sakhalin Oblast, Chukotka Autonomous Okrug, Magadan Oblast, Khanty-Mansiysk Autonomous Okrug — Yugra, Tyumen Oblast, Tyumen Oblast (except for Khanty-Mansiysk Autonomous Okrug — Yugra and Yamalo-Nenets Autonomous Okrug), Yamalo-Nenets Autonomous Okrug, and Khabarovsk Krai.

Most likely, regions with lowered volumes of training (in Fig. 4.10, they are located below the trend line) master investments without the sufficient development of local staff (for example, the North Caucasus regions). The attraction of significant investments with the least need for training was achieved in the Moscow Region and St. Petersburg. The dependence of training on investment turns out to be stronger in tradi-

Figure 4.10. How Participation in Formal and Non-Formal Opportunities of Adult Learning (%) Is Related to Fixed Capital Investment per Capita (USD'000) Across Russian Regions, 2016



Sources: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016 / Rosstat. M., 2017; Pokazateli dlya monitoringa otsenki effektivnosti deyatelnosti subyektov Rossiyskoy Federatsii / Rosstat <http://www.gks.ru/free_doc/new_site/rosstat/pok-monitor/pok-monitor.html>.

tionally industrial regions (prevalently, it happens above the trend line in Fig. 4.10), since they require more blue-collar staff in the first place.

The correlation between population coverage with continuing learning and development and the volume of investment in gross fixed capital shows that the development of new investment projects is the strongest reason for increasing the coverage of the adult population with education and training. It refers to many developing countries, as well as the overwhelming majority of regions of the Russian Federation.

There is a fair amount of studies devoted to the analysis of the positive impact of the company's innovative activities on the training and retraining of personnel.[23] However, the costs of enterprises

[23] *Tan H. et al.* Skills shortages and training in Russian enterprises // ICFAI Journal of Training and Development. 2008. Vol. 1. P. 7–59; *Roshchin S.,*

for investments in gross fixed capital (including innovative equipment) usually exceed the costs for technological innovation by one order of magnitude. Thus, according to Rosstat, Russian enterprises spent $20 billion on technological innovation and $290 billion on investments in gross fixed capital in 2015.

Training of personnel to work with new high-tech equipment will be beneficial for not only investors and employers, but for all employees. Trained personnel are more valuable for the enterprise, and their value for the company increases, which reflects in higher wages. Recent studies in Russia show that continuing learning and development increases an employee's wages by about 8%.[24]

The correlation between the increase (or, on the contrary, the decline) in the population coverage with education and the real income movement in certain regions of Russia is demonstrated by a comparison of statistical data (Fig. 4.11).

This correlation is stable and linear. Regions with lowered training volumes show a decline in actual wages. As for the constituent entities of the Russian Federation with a high population coverage with training (mainly large industrial regions), we more often observe a stable situation or an increase in wages.

Thus, investments act as triggers for a whole chain of processes associated with adult education (Fig. 4.12).

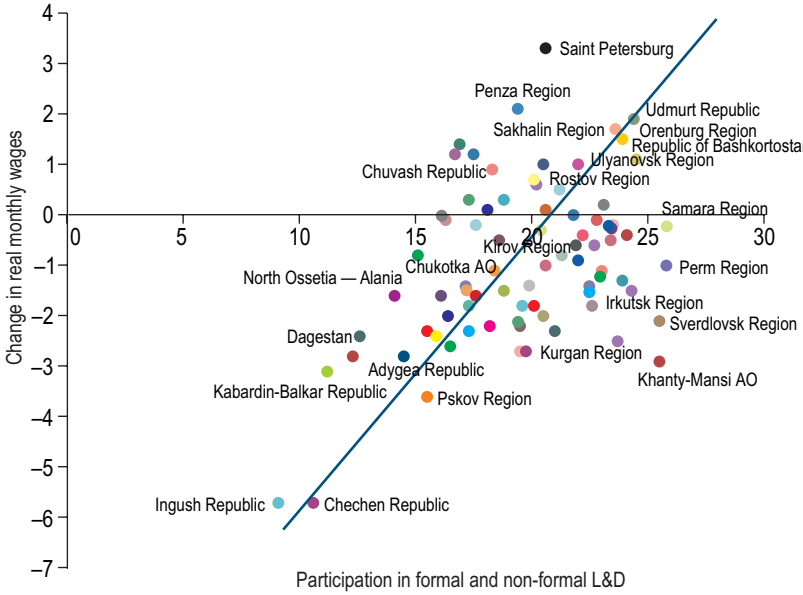
In regions where the volume of investments is growing, the level of population coverage with adult education is also increasing, since new technologies at enterprises under construction require workers to have a higher level of qualifications and knowledge. On the one hand, it increases the investment attractiveness of the territory, and

---

Travkin P. Determinants of on-the-job training in enterprises: The Russian case // European Journal of Training and Development. 2017. Vol. 41. No. 9. P. 758–775. <https://doi.org/10.1108/EJTD-05-2017-0050>.

[24] *Roshchin S.Yu., Travkin P.V.* Dopolnitelnoe professionalnoe obuchenie na rossiyskikh predpriyatiyakh // Zhurnal Novoy ekonomicheskoy assotsiatsii. 2015. No. 2 (26). P. 150–171.

Figure 4.11. How Participation in Formal and Non-Formal Opportunities of Adult Learning (%) Is Related to Growth in Real Average Monthly Wages (+ / -) Across Russian Regions, 2016

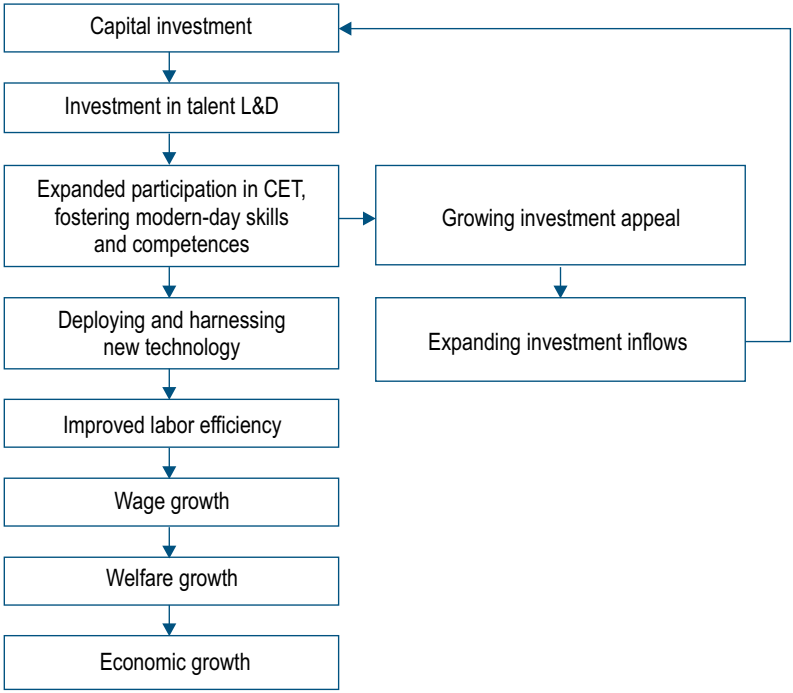


Sources: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016 / Rosstat. M., 2017; Pokazateli dlya monitoringa otsenki effektivnosti deyatelnosti subyektov Rossiyskoy Federatsii / Rosstat <http://www.gks.ru/free_doc/new_site/rosstat/pok-monitor/pok-monitor.html>.

on the other, it increases labor productivity, the rate of the wage increase, and the well-being of the region's population as a whole.

If the increase in labor productivity resulting from further training has a positive effect on the macroeconomic indicators of regions and territories, regional executive authorities are interested in stimulating education and training of adults. For this purpose, they develop government programs and special measures to support the educational activity of the adult population.

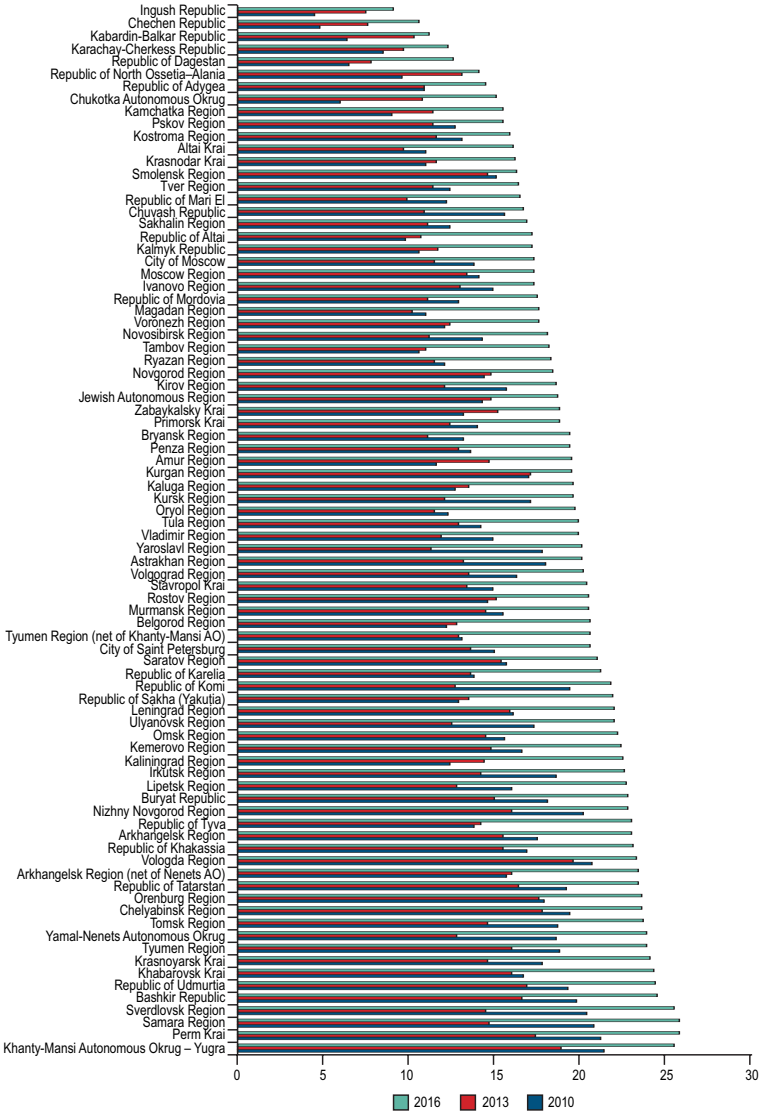
Figure 4.12. How Investment Drives Adult Learning and Economic Growth



Analysis of the situation in the regions that have achieved the highest rates of coverage with adult education and training over the past several years confirms this hypothesis (Fig. 4.13).

"Producing" regions and territories with a high level of industrial investment in gross fixed capital have high indicators in the field of adult education. However, a more profound analysis of the territorial specificity shows that the leadership in the rate of population coverage with continuing education is provided by a combination of two factors — the activity of investors in staff training and the use of special measures of government support for educational programs.

Figure 4.13. Change in Participation in Formal and Non-Formal Opportunities of Adult Learning by Russian Regions, between 2010 and 2016 (%)



Thus, the leading position of the Vologda Region is based on the measures taken by the regional administration as part of the implementation of the government program "Development of Education in the Vologda Region for 2013–2017," which provided for targeted work to involve the employed population aged 25 to 65 in continuing education programs.

Having received additional government support, professional educational organizations of the region provided training for adults in 113 demanded specialties and 135 working qualifications. Among other things, 35 new specialties and occupations were opened at the request of employers by 2013. The allocated funds were used to form a network of high-tech resource centers based at 19 institutions of secondary vocational education (67% of the total number of SVE institutions). This network covers all priority sectors of the region's economy and focuses on mobile training in terms of in-demand occupations in the labor market.

It probably became the reason for the increase in the number of the adult population who underwent training, retraining, or skill upgrading in resource centers using new equipment. In general, the number of the adult population who received training on the bases of all SVE institutions increased by 3.7 times for the period from 2011 to 2013 (2011 — 3026 people, 2012 — 6500 people, 2013 — 11,046 people). All basic and continuing professional programs have been developed in accordance with the requirements of federal state educational standards and have passed a substantive examination by employers. The list and content of programs are constantly being adjusted in accordance with the needs of customers of personnel and the regional economy.

The Orenburg and Chelyabinsk Regions also provide budget funding for programs of continuing learning and development and introduce flexible modular programs for retraining and skill upgrading at the bases of secondary vocational education organizations and centers for obtaining applied qualifications.

RINO also offers free courses for citizens of the "third age", which are aimed at mastering computer programs and training to work with the portal of public services. There are various programs for the development and improvement of professional competences for the unemployed.

The Republic of Tatarstan traditionally takes place in the top ten. It is one of the leaders in terms of investment per capita in the Russian Federation. In 2013, the "Regulations on the organization of advanced vocational

education and training of employees of enterprises carrying out restructuring and modernization of activities in accordance with investment projects in the Republic of Tatarstan", included provisions concerning the presence of the obligations of organizations in the investment project. They should conduct personnel training at the expense of extra-budgetary funds. In 2013, more than 200 educational organizations operated in the system of continuing learning and development in the Republic of Tatarstan. They implement programs for skill upgrading, professional retraining, and on-the-job training of specialists. Among them, one may note organizations of continuing learning and development in the structure of higher education institutions (institutes, faculties, centers of continuing education) and organizations that implement programs of further training for adults (centers, associations, etc.). In 2013, these organizations trained 295,400 people from the employed population.

According to 2016 data, the Khanty-Mansiysk Autonomous Okrug — Yugra and the Perm Krai are still leaders in terms of participation in adult education. In addition to them, the leaders also include Samara and Sverdlovsk regions, the Republic of Bashkortostan, the Udmurt Republic, Khabarovsk and Krasnoyarsk Territories, as well as Yamalo-Nenets Autonomous Okrug. In the Khanty-Mansiysk Autonomous Okrug — Yugra, investments that were traditionally high for this region have additionally increased. Their level also increased in the Republic of Bashkortostan and the Perm Krai, which ensured growth in the volume of vocational education and training for adults.

In the Samara Region, the Provincial Colleges function and efficiently develop with state support. These are multidisciplinary educational institutions ("educational supermarket model") that serve territorial communities (Syzran, Pokhvistnevo, Chapaevsk). In addition to basic educational programs, the Provincial Colleges (due to their multidisciplinary nature) have the opportunity to provide other training options adapted to public demand. They should also meet the educational needs of the territorial community in short-term and specialized programs and "customized" courses (for example, "University of the third age," programs for people with disabilities, social counseling and expertise, "business incubation," etc.).

If we look at the economy of Sverdlovsk Region, its industrial sectors are the most developed ***(ferrous and non-ferrous metal industries, mechanical engineering, the military-industrial complex)****. The provision*

of industrial enterprises with a sufficient number of highly skilled engineering personnel is an indispensable condition for the stable development of the real economy in the region. At the end of 2015, Sverdlovsk Oblast became one of the six regions of the Russian Federation, which create interregional competence centers with government support at the expense of regional and federal budgets (a project of the Ministry of Education and Science of the Russian Federation, the region, and the Agency for Strategic Initiatives). The Interregional Competence Center is an educational platform and a methodological center for the development and implementation of educational programs for high-tech personnel training for the economy of Sverdlovsk Oblast. Equipment and material procurement of the specialty "mechanical engineering, management of complex technical systems, and material processing" in the interregional competence center corresponds to the profile of the regional economy. It means that it meets the needs of the region's backbone industrial enterprises in professional development and retraining of employees.

In the Saratov region, the volume of investments in gross fixed capital per capita has grown significantly. The share of profitable enterprises has increased as well, and it has led to an increase in the coverage of the population with further training.

The changes in vocational adult education incorporated in 2013 made Vologda Oblast one of the leaders among the constituent entities of the Russian Federation in terms of the increase in investments in gross fixed capital by the end of 2016. Due to the use of new technologies, the share of efficient enterprises has grown significantly, and it has led to an increase in the educational activity of both employers and employees.

The regional investment standard, developed by the Agency for Strategic Initiatives, considers the availability of financial and organizational tools for acquiring the in-demand skills and competencies in the constituent entities of the Russian Federation as one of the crucial reasons for investors who decide upon launching of new projects. Another weighty reason is the availability of skilled workers and their readiness for continuing training and reskilling[25]. Since a

[25] Agency for Strategic Initiatives. Regional investment standard. <https://asi.ru/investclimate/standard/>.

skilled and creative human resource is one of the key factors influencing the arrival of investors in the region, government authorities need to cooperate with enterprises and develop measures to support further staff training.

The conducted survey shows that the differentiation of the constituent entities of the Russian Federation (in terms of socio-economic indicators) is interrelated with the indicators of regional systems of adult education. Analysis of the data obtained allows noting the following patterns.

1. Investments in gross fixed capital are currently an indirect contribution to human capital in the Russian Federation. In regions where the volume of investments is growing, the level of the population coverage with continuing education is also increasing.

2. In the regions where the volume of investments has not changed yet, an increase in the level of coverage can be achieved through the successful implementation of government programs to support the education and training of adults. Moreover, it ensures an increase in the investment attractiveness of the territory. In this regard, direct state support for the processes of obtaining educational services takes on particular importance.

3. The lowest level of coverage with education and training is in the regions where there is a high degree of deconcentration of the population across the territory, and there are steric obstacles between individual settlements. Beyond that, the population from other constituent entities of the federation is involved in the implementation of investment projects.

4. The participation of all parties (an employee, the entire society, interested enterprises, investors, regional authorities, and the state) is necessary for the process of formation, replenishment, and further development of human capital in the regions of the Russian Federation.

The development of educational activity includes the personal resource of everyone. It stimulates the activities of a person and his

attitude to action, but not contemplation. Training forms a culture of diligence, achievement of goals, and concentration in business, as well as develops skills of cooperation, communication, creativity, problem solving, etc. As a result, there emerges a proactive person, who reacts to external situations preemptively, rather than passively. Showing flexibility, he is more active in mastering new job skills and implementing existing ones, ensuring an even higher demand in the labor market.[26] Such a resource turns out to be very procreant and productive on a nationwide scale, and not in terms of a specific employer, since a trained and in-demand specialist changes his place of employment more often.

Summarizing the above, we will single out at least three mechanisms[27], through which education can influence economic growth. First, education increases the amount of human capital in the labor force, which increases labor productivity and ensures a transition to a higher equilibrium level of output. Second, education can enhance the innovative potential of an economy, and knowledge of new technologies, products and processes will promote growth. Third, education can help to disseminate and transfer the knowledge needed to understand and process new information, as well as to successfully implement new technologies developed by others, also accelerating economic growth.

In the meantime, it should be borne in mind that the quality of the labor force is only one of the characteristics that determine economic growth.[28] The availability of knowledge and skills is implemented in a specific environment that provides such an op-

---

[26] *David H., Katz L.F., Kearney M.S.* The Polarization of the U.S. Labor Market // American Economic Review. 2006. No. 96. P. 189–194.

[27] *Hanushek E., Woessman L.* The role of education…

[28] The United States has never shown top results in international tests for assessing basic literacy. However, it has continuously maintained high rates of economic growth due to a lower degree of government intervention in the economy, which is reflected in low and understandable taxes, a minimum level of government production, etc.

portunity.[29] This environment requires workers to be able to flexibly restructure skills that are formed not within the framework of a centralized "web" of necessary educational programs, but in the context of the transfer of a set of knowledge and skills. The state, the employer, and the employees synchronize them with the needs of the market. It is this model of skills acquisition (Harvard economist Lant Prittchett compares it to the collective behavior of starfish) that is being implemented in Scandinavian and other countries with the welfare state model.

In general, one may note that the existing institutional system of society turns out to be more essential than the knowledge and skills of potential employees in and of themselves. The consideration of the processes allowing the implementation of flexible competences should also include incentives for investment and the creation of new industries, transparent legislation, low taxation of innovative enterprises, as well as various forms of support for independent entrepreneurial initiative.

4.2. Educational Programs for Increasing Business Activity and Survivability Rate of Startups

In most cases, the emergence and development of organizations is a consequence of the implementation of various entrepreneurial strategies. Thus, entrepreneurship becomes a direct source of economic activity and the basis for its expansion. In the meantime, special attention is paid to young companies (startups) that have just emerged and therefore are small in terms of the number of their employees. However, having an upward trend, they are capable of providing a significant increase in the gross product.

---

[29] *Pritchett L.* The Rebirth of Education: Schooling ain't learning. Brookings Institution Press Baltimore, MD. P. 272.

According to L.N. Mayorova[30], an increase in the number of small enterprises by 1% can cause a growth in GRP by 0.28%, and an increase in the volume of their production by 1% can cause a growth in GRP by 0.36%.

Beyond that, such innovative companies and their founders not only create new jobs. They often offer the production of goods and services in fundamentally new consumer-oriented niches, which ensures a breakthrough growth in aggregate production. At the time of their inception, startup personnel represent a brand new format of human capital.

The creation of an innovative entrepreneurial environment, where entrepreneurial education is of vital importance, is considered one of the ways to increase the number of emerging startups.[31]

A study conducted by the Institute of Education of HSE Univ. in 2017 confirmed the correlation between entrepreneurship education and business activity in the world and in Russia (data from Global Entrepreneurship Monitoring 2016).[32] Statistical analysis of the data showed that the development of business activity is accurately determined by an increase in the number of educational organizations, a rising scale of expenditures for education in general, and an increase in the population coverage with entrepreneurship education programs at all levels.

The study of the best practices of foreign countries demonstrates the need to create an **integrated eco-system of entrepreneurship education** for this purpose.[33] For example, European documents

---

[30] *Mayorova L.N.* Vliyanie razvitiya malogo predprinimatelstva na ekonomicheskiy rost v Rossii: Avtoref. dis. … kand. ekon. nauk. M., 2008. P. 21.

[31] *Isenberg D.J.* How to start an entrepreneurial revolution // Harvard Business Review. 2010. Vol. 88. No. 6. P. 40–50.

[32] *Dukhon A.B., Zinkovsky K.V., Obraztsova O.I., Chepurenko A.Yu.* Vliyanie programm predprinimatelskogo obrazovaniya na razvitie malogo biznesa v Rossii // Voprosy obrazovaniya. 2018. No. 2. P. 139–172.

[33] *Korotkov A.V.* Ekosistema predprinimatelskogo obrazovaniya kak obyekt gosudarstvennoy podderzhki // Sovremennaya konkurentsiya. 2017. Vol. 11. No. 1 (61). P. 114–125; *Korotkov A.V., Zobnina M.R.* Predprinimatelskoe

provide for a set of standard measures of state support for entrepreneurship education, including:

1) the need for entrepreneurship education as part of the state education system

2) development of educational materials on entrepreneurship

3) training and professional development of teachers

4) formation of a community of participants in entrepreneurship education

5) financial support for entrepreneurship education and emergent entrepreneurs

The ecosystem of entrepreneurship education includes several levels, namely, entrepreneurship education in schools, professional educational organizations and higher education institutions, as well as specialized programs for adults.

The primary task of the programs for schoolchildren is to acquaint them with the essence of entrepreneurship and offer it as a sphere of possible professional activity. Having shown that an entrepreneurial result can be confidently achieved due to the appropriate knowledge, these programs should remove the fear of these types of activities. At this stage, it is also possible to develop personal entrepreneurial qualities (leadership, responsibility, focus on needs, the ability to negotiate), which will form the basis for working on a project. The nature of the programs is often game-oriented — they imitate the activities of companies, develop team behavior skills, etc.

In a professional educational organization (college or university), the entrepreneurial activity can rely on a specific skill acquired during training, which is integrated with a more detailed study of business processes. As a result, students often get the opportunity to explore an existing entrepreneurial project as a team member or to consider their business ideas from the point of view of their independent implementation in real markets.

---

obrazovanie: opredelenie i klassifikatsiya // Ekonomika i predprinimatelstvo. 2016. Vol. 75 (2). No. 10 (2). P. 290–295.

The source of entrepreneurial ideas is the research activities of the team, in which the student finds himself, and where he gets the opportunity to participate in the preparation of applications for funding. If the level of implementation is high, the startup company will be able to develop in conditions of sufficiently low competition, providing up to a 1000% of the return on investment.

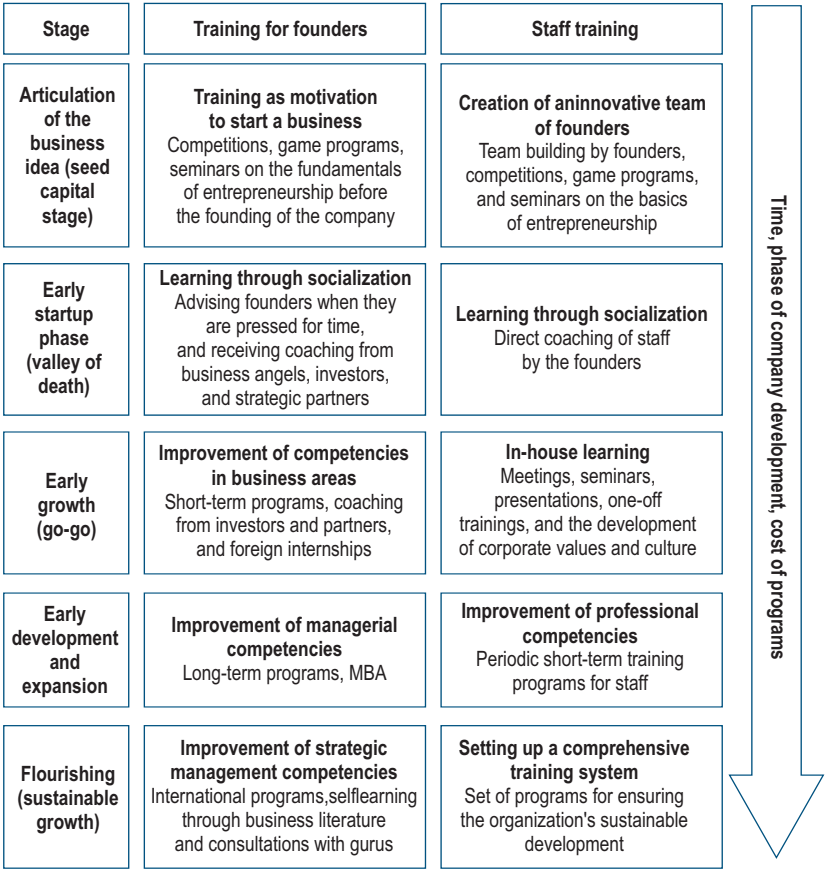
Entrepreneurship education programs for adults normally imply direct work with a project (or its idea) that the trainee already has. The implementation of primary disruptive innovations is based on research projects of universities, institutions of science, and industrial corporations engaged in industrial research and development.

In this case, particular emphasis is placed on researching market prospects and developing a business model, which is then presented to a potential investor to obtain venture capital investments. In the meantime, the structure of the educational program includes the first contacts with investors, who are presented with the project (for example, during a venture fair).[34] Beyond that, they often take part in the modification of the project in the educational coaching mode. This model is implemented as part of the so-called business accelerators, where projects are substantially prepared to receive the initial series of public or private investment. The considered training format, which includes the modification of the project for the investor, provides the highest probability of its implementation since it significantly reduces risks.

After attracting investments, the active period of the project's evolution begins. It implies expert, financial, mentoring, and educational support of startups. Since the emergence and accumulation of managerial competences among founders who have left the research environment occur gradually, the composition of education programs, their content, duration, and amount of training costs depend on the company's stage of development (Fig. 4.14.)

[34] <www.rvf.ru >.

Figure 4.14. Corporate Learning and Development System at Innovative Startup



Source: Korshunov I.A., Gaponova O.S. Organizatsionnoe upravlenie predpriyatiyami rannikh faz razvitiya. M, 2016.

The work of the accelerator Pulsar Venture Capital, associated with the universities of the Republic of Tatarstan, is aimed at supporting the development of entrepreneurship through education. It offers 100-day business programs for IT experts and industrial startups. The company provides education in the form of intensive trainings with the participation

of mentors and investors from all over the world. An internship in one of the world's leading innovation centers is the final stage of the program.

As empirical studies attest[35], as a company develops, its founders (in addition to skills in developing and managing intellectual property, presenting projects, and attracting investments) begin to feel the need for competences in marketing, finance and accounting, development of organizational design, and staff management. It applies to both the founders of the company and the staff who come to the startup.

Thus, integrated educational programs are recognized as the most effective means for increasing the marketability and survivability of innovative companies. They combine the training of their leaders with the participation of investors and the provision of a set of programs for direct business development, depending on the stage of the startup organization's development.

4.3. Developing Types of Mundane Adult Literacy to Improve the Quality of Life

A prosperous person should navigate in modern achievements of civilization, which will help him to avoid social tension. In most developed countries, the process of mastering mundane literacy is carried out at the level of the family and local communities and is coordinated by the government in educational institutions. In the Russian Federation, the change in the state structure, the destruction of the centralized education system, and the lack of family practice in acquiring social skills dramatically hampered the formation of various types of mundane literacy among the population. Only in the 2000s, they began to work on including its components in educational policy. One may single out such types of new literacy as digital, financial, legal, health, environmental, etc.

---

[35] *Korshunov I.A., Gaponova O.S.* Organizatsionnoe upravlenie predpriyatiyami rannikh faz razvitiya. M, 2016.

Digital literacy is a set of knowledge and skills that are necessary, firstly, for the safe and efficient use of digital technologies and information Internet resources for assessment and decision-making, and secondly, for interacting with people. Researchers refer digital competence, digital consumption, digital security, and digital algorithms to the structural elements of digital literacy.[36] D. Belshaw defines digital literacy as the primary mechanism for the implementation of social mobility. Among other things, it contributes to overcoming the feeling of social isolation. In his opinion, it is a powerful weapon in the fight against poverty and low social status.

Financial literacy is knowledge of strategic financial objects and processes, awareness of information about financial institutions and the products they offer, the ability to use it and make reasonable decisions for life goals, ensuring well-being and financial security.[37] Strategy for Improving Financial Literacy in the Russian Federation for 2017–2023 interprets financial literacy as the result of a financial education process that includes a combination of awareness, knowledge, skills, and behavioral patterns. These factors are necessary for making successful financial decisions and achieving financial well-being in the end.[38] A low level of financial literacy has a diminishing effect on the development of financial markets and their regulation, as well as on the pension and investment spheres. Beyond that, it worsens the personal well-being and efficiency of households.

Legal literacy is a system of legal knowledge and practical skills focused on the implementation of the personable activity. It includes the ability to handle basic legal concepts, find the necessary legal information, apply legal knowledge in everyday life and professional activities, as well as give a legal assessment of conflict situations and actions of social actors, organizations, and the state.[39] The School of the Literate

---

[36] New Vision for Education. Unlocking the Potential of Technology. World Economic Forum Report, 2015.

[37] *Belekhova G.V.* Otsenka finansovoy gramotnosti naseleniya i puti eye povysheniya // Problemy razvitiya territorii. 2012. Vol. 60. No 4. P. 96–109.

[38] Strategy for Improving Financial Literacy in the Russian Federation for 2017–2023 (approved by the order of the Government of the Russian Federation on September 25, 2017, No. 2039-r); <https://finagram.com/fingram/>.

[39] *Vishnyakova S.M.* Professionalnoe obrazovanie. Slovar. Klyuchevye ponyatiya, terminy, aktualnaya leksika. NMC SPO, 1999; Osnovy gosudarstven-

Consumer[40]*, which helps to exercise the rights of citizens in the housing and utilities sector, is one of the examples of the development of everyday legal awareness.*

Health literacy consists of the cognitive and socio-behavioral skills that determine the motivation and ability of people to gain access to health care, as well as understand and use the information necessary to maintain good health throughout their lives.[41] *Lack of literacy in the field of medicine and health care has a direct impact on the level of health and quality of life. In this case, the primary task of medical literacy is to inform citizens about diseases, access to medical care, and the use of the health care system.*[42]

Cultural literacy is a system of basic knowledge that makes it possible to understand both one's own culture and its differences from other cultures in terms of customs, traditions, values, and beliefs. Cultural literacy also implies accepting the cultural experiences of the wider public. This type of literacy requires not only familiarity with a wide range of basic knowledge that makes up the core of a particular culture, but also the freedom to use this knowledge when creating a language of social communication.[43]

Environmental literacy is the ability of an individual to function successfully in everyday life, with an understanding of how people and societies relate to each other and natural systems and how they can make this connection sustainable. This type of literacy requires sufficient awareness, knowledge, skills, and relevant attitudes to incorporate relevant environmental considerations into mundane decisions about consumption, lifestyle, career, and participation in individual and collective activities.[44]

---

noy politiki Rossii v sfere razvitiya pravovoy gramotnosti i pravosoznaniya grazhdan. <http://kremlin.ru/events/president/news/11139>.

40 <www.проектшгп.рф>.

41 *Kwan B., Frankish J., Rootman I.* The development and validation of measures of "health literacy" in different populations. Vancouver: University of British Columbia Institute of Health Promotion Research & University of Victoria Center for Community Health Promotion Research, 2006.

42 *Amlaev K.R. et al*. Meditsinskaya gramotnost (kompetentnost): sostoyanie problem, sposoby otsenki, metodiki povysheniya gramotnosti patsiyentov v voprosakh zdorovia // Meditsinskiy vestnik Severnogo Kavkaza. 2012. Vol. 28. No. P. 75–79.

43 *Kolesnikova I.A*. Novaya gramotnost i novaya negramotnost XXI stoletiya // Nepreryvnoe obrazovanie: XXI vek. 2013. No 2. P. 109–112.

44 What is Environmental Literacy? <http://www.fundee.org/facts/envlit/whatisenvlit.htm>.

Nowadays, the environmental literacy of the adult population ensures not only the natural pollution control in megapolises and public spaces but also the adoption of crucial environmental initiatives associated with significant economic effects (for example, segregated waste collection, etc.).

The development of these types of literacy improves the overall quality of life since it allows citizens to take advantage of all modern technical solutions and opportunities to solve everyday problems.

4.4. Vocational Education and Training for Unemployed Citizens

According to the Federal Law "On Employment of the Population in the Russian Federation,"[45] the unemployed are able-bodied citizens who do not have jobs and earnings, are registered with employment offices to find a suitable job, look for a job, and are ready to start it.

Unlike most countries with developed market economies, unemployment in the Russian Federation is not an active regulator of the labor market.[46] During economic crises, it shows no signs of "catastrophic" growth. The trajectory of its change remains equable, without any sharp spikes caused by sporadic unloading of large numbers of workers into the labor market. Having started at 5.2% in 1992, the total unemployment in Russia exceeded the threshold of 10% only after 6 years of a protracted economic slowdown, and its maximum (13.3%) was reached by 1998. After the Russian economy entered the recovery phase by the middle of 2008, the employment rate reduced to 5.5–6.0%, and it is maintained nowadays.[47]

According to Rosstat, the number of the economically active population in 2016 averaged 76.6 million people. Among them, 72.4 million

---

[45] Federal Law No. 1032-1 of April 19, 1991 "On Employment of the Population in the Russian Federation" (as amended on July 29, 2017).

[46] Rossiyskiy rynok truda: tendentsii, instituty, strukturnye izmeneniya / V. Gimpelson, R. Kapelyushnikov, S. Roshchin (eds). M., 2017.

[47] <http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/wages/labour_force/#>.

were engaged in economic activity, and 4.2 million remained unemployed and did not have gainful activities.[48] According to Rosstat forecasts, by 2030, the estimated number of unemployed may further decrease and amount to about 2.5 million people under the medium development scenario.

In order to reduce social tension, multiply labor capital, and increase employed human capital at the state level, the experts work on enhancing the mobility of citizens in the labor market. One of the measures of this policy is the vocational education and training of unemployed citizens.

Unemployed citizens represent a special group of trainees since their participation in educational programs can be considered forced. Their training is associated with the expansion of work trajectories. The vocational education and training system for the unemployed provides for training in the occupations and specialties that are the most in-demand in the labor market.[49] The objectives of the program "Promotion of Employment of the Population"[50] include preventing the escalation of tensions in the labor market, attracting foreign workers in accordance with the needs of the economy, promoting the retention of high efficiency, as well as ensuring the protection of the labor rights of citizens. The program contains three subprograms that consider affording access of unemployed citizens to in-demand professional skills in the labor market as a priority task.[51]

---

[48] <http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/demography/#>.

[49] Resolution of the Ministry of Labor and the Ministry of Education and Science of Russia dated January 13, 2000, No. 3/1 "On Approval of the Regulation on the Organization of Vocational education and training, Professional Development and Reskilling of Unemployed Citizens and the Unoccupied Population."

[50] Approved by the Resolution of the Government of the Russian Federation dated April 15, 2014. No. 298.

[51] <https://rosmintrud.ru/uploads/imperavi/ru-RU/Sodejstvie_zanyatosti_naseleniya_itog.pdf>.

According to Article 23 of the Law of the Russian Federation "On Employment of the Population in the Russian Federation," efforts are underway to organize vocational education and training and continuing learning and development for unemployed citizens. Vocational education and training, reskilling and professional development of unemployed citizens can be carried out by the assignment of the employment offices, if:

— a person does not have a profession (specialty);

— it is impossible to find a suitable job since a person does not have the necessary job skills;

— it is necessary to change the profession (specialty, occupation) due to the lack of job that meets the person's job skills; and

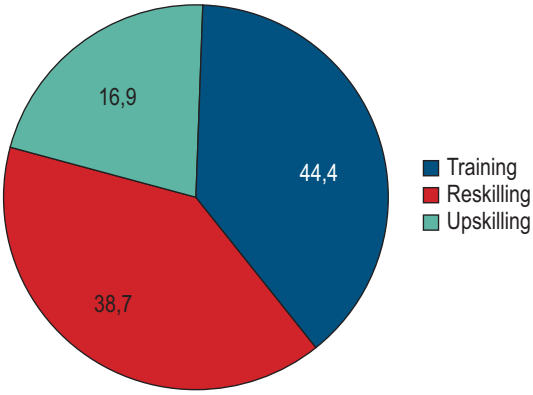
— the ability to perform work in the previous profession (specialty) has been lost.

The following groups of citizens have the right to undergo vocational education and training on a priority basis. These are disabled people, unemployed citizens after a six-month unemployment period, dischargees, wives (husbands) of military personnel and dischargees, graduates of educational institutions, as well as citizens who are first-time job seekers (previously unemployed) or do not have a profession (specialty).

Before unemployed citizens are sent to undergo vocational education and training, the experts perform *vocational-oriented work*, which is provided as a public service under the approved Regulations. It includes vocational informing, vocational counseling, vocational selection, and psychological support, and the relevant departments of employment services carry them out.

By the assignment of employment services, about 190,000 unemployed citizens start vocational education and training, reskilling, and professional development annually. Approximately 160,000 complete their training. At the same time, a larger number of unemployed undergo vocational education and training and reskilling, and a smaller number undergo professional development (Fig. 4.15).

Figure 4.15. How Education and Training Offerings for the Unemployed in Russia Are Distributed by Type (%)



In addition to educational services, employment services provide vocational guidance services throughout the country, and about 3% of the total number of unemployed citizens receives them.[52]

Employees of organizations who are under the threat of dismissal (that is, before the deadline for terminating the employment contract) are sent to advanced vocational education and training. Such advanced vocational education and training refers to measures for reducing negative socio-economic consequences. It allows employers to train workers in necessary in-demand specialties (without additional costs) during the reorganization or restructuring of an enterprise, reduction of production volumes, or suspension of activities. Moreover, they can save jobs, and employees get the opportunity to increase their skill level or learn a new occupation without losing their jobs. The training includes reskilling (getting another occupation) and professional development. In order to prevent the growth of tensions in the labor market, about 30,000 people undergo advanced vocational education and training and on-the-job training annually.

[52] <https://rosmintrud.ru/docs/mintrud/migration/110>.

It should be noted that vocational education and training for the unemployed in Russia is the largest and most expensive program in the system of the state employment service.[53] The volume of budgetary allocations for the implementation of the entire program is more than 579 billion rubles (from the federal budget for the period of 2013–2020).[54]

The efficiency of the implementation of state policy in this area is measured in the socio-economic context (a decrease in the unemployment rate in the country as a whole, as well as changes in the structure of demand and supply of labor in the labor market, which lead to an increase in the level of GDP per capita). Beyond that, it is measured in the individual context (increasing the mobility of citizens and their motivation to find a job perform work activities).

4.5. Professional and Social Inclusion of Senior Citizens

The general aging of the population, which is also observed in the Russian Federation, is one of the global trends of modern humanity — the number of senior citizens is growing, and a decrease in the number of the working-age population is predicted (Fig. 4.16).

Demographic data show an overall decline in the number of employees in the next 15 years, and it will mainly come at the expense of workers under the age of 35.[55] Significant growth in the level of employment is unlikely to happen even with an increase in the retirement age. Such tendencies will result in an increase in the earnings of young workers (with a decrease in revenues of the elderly) and, accordingly, an earlier (by age) onset of the peak of earnings. The current level of participation in reskilling is not capable of sustaining the productivity of an aging population cohort. In this

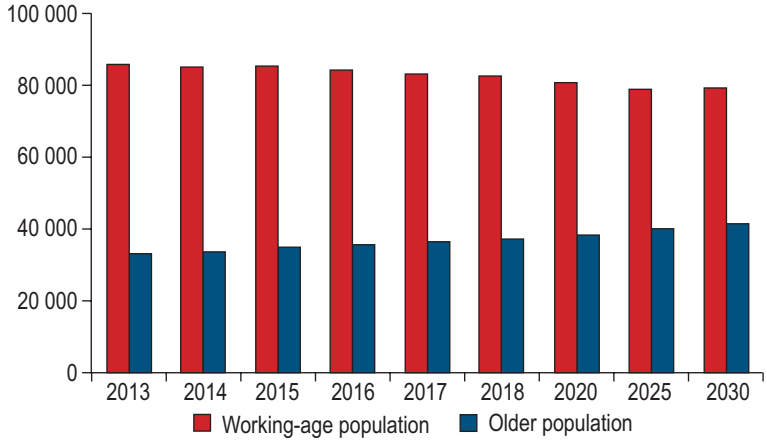
---

[53] *Zelenova O.I.* Effektivnost professionalnogo obucheniya v sisteme gosudarstvennoy sluzhby zanyatosti // Zhurnal issledovaniy sotsialnoy politiki. 2006. Vol. 4. No. 3. P. 367–380.

[54] <https://rosmintrud.ru/ministry/programms/3/1>.

[55] Rossiyskiy rynok truda…

Figure 4.16. Historical and Projected Change in Working-Age and Older Population in Russia, 2013 to 2030 (Thousands of People)



Source: <http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/demography>.

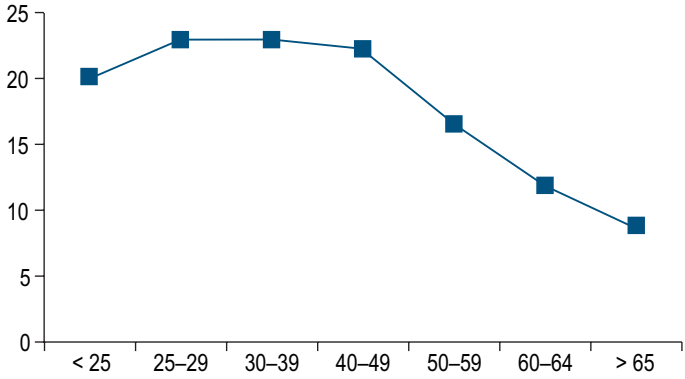
regard, it becomes essential to maintain the skill level of employers at older ages.

An analysis of Rosstat data on the adult population coverage with continuing education also indicates that elderly workers participate in education to a lesser extent than the younger generation. On this basis, their wages are often reduced.[56] The maximum rate of participation in training (Fig. 4.17) is synchronously observed at the same age (from 25 to 39 years) as the maximum wage, which then decreases with age (Fig. 4.18).

The aging of the labor force is one of the factors that constrain the functioning of the labor market and the pension system, reduce investment activity, and change consumer interests. Many countries that are aware of the challenges of population aging try to reduce

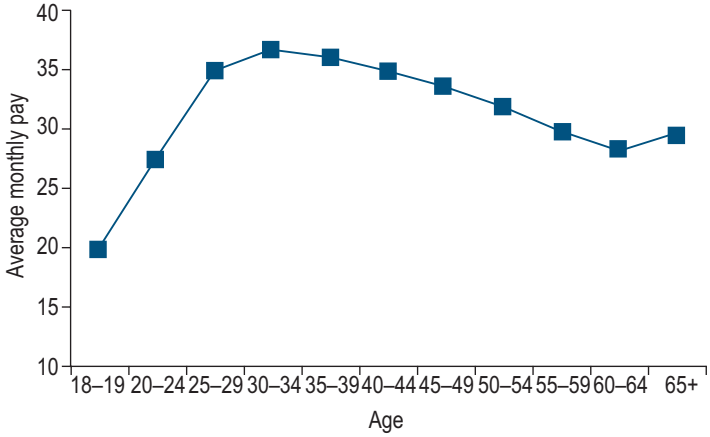
[56] Ibid.

Figure 4.17. Participation in Further Education and Training by Age Group, 2016, (% of Total Employees of Given Age)



Source: Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Figure 4.18. Average Monthly Pay Across Age Groups of Employees (RUB'000)



Source: Rossiyskiy rynok truda: tendentsii, instituty, strukturnye izmeneniya / V. Gimpelson, R. Kapelyushnikov, S. Roshchin (eds). M., 2017.

the risks associated with an increase in the number of seniors in the labor force. They develop special programs aimed at redistributing work in the society in such a way as to preserve the most suitable types of activities for senior citizens and ensure their economic efficiency.

If we consider Singapore, a survey shows that mature workers are ready to develop their working careers throughout their lives.[57] They are hardworking, patient, and do not hesitate to deal with tough challenges. At the same time, they are flexible, responsible, and willing to learn to meet employers' expectations. However, their expectations in terms of assessing their work are often higher than those of young workers. Therefore, many Singaporean enterprises do not hire them on the grounds of costs saving.

The survey confirms that mature employees will continue to work if jobs meet their expectations. In the sectoral context, it usually applies to the field of financial services, consulting (including in the field of law, real estate, and rent), and teaching. One may also note industrial sectors that do not require excessive physical activity and outdoor work (for example, transport and grocery logistics, communication centers, management of workflow and accounting in the public sector and large companies, etc.). In terms of labor conditions, the most expected are part-time or flexible work schedules, remote work, etc. In terms of professional expertise, mature workers apply for the positions of professional, managerial, executive, and technical specialists (PMET — professional, managerial, executive, and technical). According to employers, elderly workers' perceptions of their competence are often overstated. That is why they should envisage the undergoing of specific training programs to ensure that the requirements for these positions are met.

---

[57] *Billett S.* Promoting and supporting lifelong employability for Singapore's workers aged 45 and over. Institute for Adult Learning. Singapore, 2010. <www.ial.edu.sg>.

The need to use special forms of advanced training for mature workers stems from the fact that they do not want to bill themselves as "students." Therefore, the methods of training in the workplace are the most efficient. They are applied in the process of interaction with other specialists, as well as when performing work after employees who are more experienced in a new area. Training programs should be interactive, flexible, modular, and include social adaptation. It is essential that training is carried out under the patronage of academic institutions (universities, technical colleges), as it increases the value of the program for mature trainees. It is desirable that the training takes place during working hours, with the preservation of wages. Subject to these conditions, up to 84% of mature workers are ready to participate in continuing education programs with the continuation of their labor activity.

In 2016, employment services provided almost 30,000 vocational guidance services for pensioners seeking to resume their labor activity.[58] *Four thousand seniors started vocational education and training and continuing learning and development, and the overwhelming majority of them have completed their education.*[59]

The results of studies of the factors and consequences of the Russian population aging[60] show that club educational activities on interests or craft are **more suitable programs for the elderly** (for example, www.remeslodo.ru). Beyond that, there are online and offline platforms for uniting seniors to organize learning and cognitive

---

[58] Decree of the Government of the Russian Federation of June 10, 2011, No. 456 "On the procedure for financial support of social programs of the constituent entities of the Russian Federation related to strengthening the physical infrastructure of social service organizations, providing targeted social assistance to non-working pensioners who are recipients of insurance old-age and disability pensions, and computer literacy training for non-working pensioners."

[59] <https://rosmintrud.ru/docs/mintrud/migration/110>.

[60] Looking for a new "silver age" in Russia: factors and consequences of population aging. Review Report of the World Bank. <http://documents.worldbank.org/curated/en/820371468190168559/pdf/99487-RUSSIAN-WP-PUBLIC-Box393204B-silver-aging-rus-web.pdf>.

events and volunteering (including through universities of the third age[61]). They create a microenvironment for acquiring knowledge and skills without dividing into teacher and student.

In this regard, the acquisition of new literacy and the adaptation of pensioners become the main areas of study. Such groups can be formed at the premises of national universities[62], where an educational certificate issued by a university or a licensed educational organization confirms the completion of training.

The first special sites for the elderly were aimed at training them in computer literacy. A military pensioner from Donetsk, Sergei Avdevnin, created one of these sites (www.pc-pensioneru.ru). He named his project "Computer Academy for Retirees". The basic computer lessons of the program "Get to Know a Computer" explain how to choose a monitor or printer and provide information on memory card functions. Beyond that, there are lessons in Adobe Photoshop (cropping, removing red-eye effect, masking defects, tonal adjustment), registration in the Web Money system, and others.

In the Russian Federation, there is a range of other successful practices for implementing activities on social inclusion of senior citizens. Among them, one may note the project of MCU (Moscow City University) for training elderly citizens, which is called "Active Longevity". The goal of the project is to create conditions for active longevity and satisfaction of educational wants and interests. It is also aimed at assisting in social and cultural development and expanding the circle of contacts of senior citizens. The project launched such trainings as "Secrets of Communication with Grandchildren," "Family Judge — Resolving Conflict Situations in the Family," "Fashion and Lifestyle at Mature Age," etc. There are workshops aimed at obtaining competencies in the field of IT, including "Learning to Work on a Pad," "Mastering Mobile Communications," "Communication in Social Networks," and "How to Order Goods Via the Internet." Beyond that, the project offers workshops on interests — "Secrets of Floriculture,

---

[61] Interregional Resource Center "Silver Age." St. Petersburg. <http://silveryears.ru/>.

[62] For example, ITMO (<www.u3a.ifmo.ru>) or MCU (<https: // ido.mgpu.ru/article/2174>).

Horticulture and Vegetable Gardening," "My Profitable Vegetable Garden," "Rules for the Traveler and Tourist of Ripe Age," etc.

Universities of the third age are designed not only to make the life of senior citizens more content but also to give them the opportunity to feel the strength in learning and restore their working ability. Many government programs retrain pensioners and give them a chance to start working again.

In Primorsky Krai, there is a training program for pensioners aimed at obtaining a demanded range of professional qualifications. The certificate received is substantially a guarantee of employment — 60% of the trainees are employed in the first month.[63] At the same time, job placement under this program does not exceed 28% in the Khanty-Mansiysk Autonomous Okrug. Therefore, it is necessary to make allowance for the peculiarities of the program implementation and the specifics of the region.

Thus, training and education of senior citizens contribute to their social integration and improves their well-being. We may see a new model of the educational trajectory, based on the principle of lifelong learning, when secondary, higher, and continuing learning and development together create opportunities for long-term competitiveness in the labor market.

4.6. Integration of Labor Migrants Through Vocational Education and Training

Labor migration is the spatial movement of the working-age population caused by changes in the development and location of a production facility and in the conditions for the existence of the labor force; an individual undergoes it mainly voluntarily (for a certain period and without changing his permanent place of residence) to obtain income or earnings.[64] With reasonable regulation, migration

[63] <http://primgazeta.ru/seaside-seniors-willing-to-work-and-learn-new-skills>.

[64] *Bezborodova T.M.* K voprosu ob opredelenii ponyatiya i administrativno-pravovogo statusa trudovogo migranta // Problemy sovremennoy ekonomiki.

has a positive impact on the economic and demographic situation (by making up for the shortage of labor force), as well as on the social and cultural development of countries.

According to the Ministry of Internal Affairs of the Russian Federation, there is a decrease in the volume of work permits issued to foreign citizens nowadays.[65] At the same time, the structure of issued permits is also changing — the proportion of skilled and highly skilled specialists is increasing.

It would seem to reduce the need for vocational education and training of entrant workers. However, the lack of labor force increases the need for the further attraction of the most talented young people who have completed their studies in shortage occupations and specialties in Russian educational institutions. Beyond that, society continues to show a substantial tension towards migrants and the communities they form.

In this regard, the Concept of the State Migration Policy of the Russian Federation for the period up to 2025[66] proposes to use the Russian education system as one of the mechanisms for stimulating migration policy.

To date (according to the Federal Law "On the Legal Status of Foreign Citizens in the Russian Federation"[67]), the government has updated and streamlined the list of educational organizations conducting examinations in Russian as a foreign language, Russian history, and the fundamentals of the legislation of the Russian Federation for foreign citizens. These include both federal universities and regional organizations of secondary vocational education, which

---

2011. No. 4. <http://cyberleninka.ru/article/n/k-voprosu-obopredelenii-ponyatiya-i-administrativno-pravovogo-statusa-trudovogo-migranta>.

[65] <https://xn--b1aew.xn--p1ai/Deljatelnost/statistics/migracionnaya/item/15252649/>.

[66] Approved by the President of the Russian Federation on June 13, 2012.

[67] Federal Law No. 115-FZ of July 25, 2002 "On the Legal Status of Foreign Citizens in the Russian Federation" (edited on July 29, 2017, as amended and supplemented, came into effect on December 5, 2017).

have eased the tension in attracting migrants by conducting (along with preparing and administering exams) their training, including in a demanded occupation.

Still, no universal solution has yet been formed concerning the vocational education and training and education of low-skilled migrants. International experience shows the demand for educational courses that combine mandatory internal sessions and online training.[68]

The online school for labor migrants became one of the first resources for migrants in the Russian Federation. It is a service for foreign citizens and labor migrants seeking to better acquaint themselves with Russian migration legislation and learn to make sense of it.[69] The program offers courses aimed at mastering 21st-century skills.

Russian developers of proposals for the development of migration policy[70] also offer to create new educational institutions of the SVE system, where training can be carried out on a credit basis, subject to the subsequent working off the credit amount in Russia. The return of trained migrants from the CIS countries to their countries will have a positive effect on the sustainability of the economic development of the entire community. However, the creation of new educational institutions will require expenditures from the budget of the Russian Federation (training of personnel of migration services, training and education of teaching staff, and other administrative and technical costs). In this regard, there is the problem of co-financing from Russian employers. It is not clear whether they are interested in increasing their staff at the expense of migrants. The creation of new educational institutions only for migrants may cause a negative response in Russian society, where the issue of interethnic relations will become more acute.

---

68 <https://www.collegeunbound.org/>.

69 <https://www.migranto.ru/vebinary-dlya-migrantov>.

70 Proposals for the migration strategy of Russia until 2035 <https://www.csr.ru/wp-content/uploads/2017/09/Migration-Strategy- RU-web-1.pdf>.

Training for migrants will be efficient if the associated costs are lower than the costs incurred by enterprises to increase labor productivity through other factors or expenditures associated with the ineffectual recruitment of staff.

Chapter 5

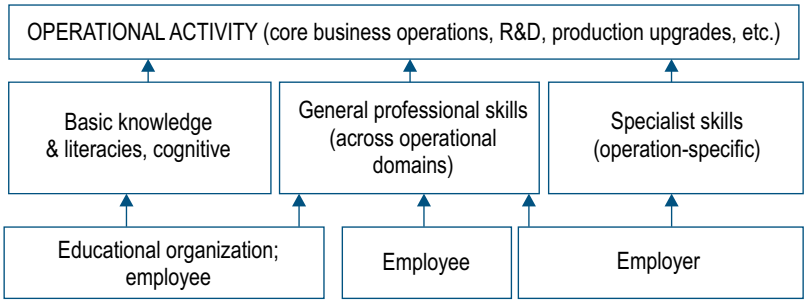
How to Stimulate Adult Education and Launch a Market for Continuing Education

In the market economy conditions, the developed measures to increase the coverage of the population with continuing education usually have the character of incentives influencing the objectively emerging training processes of both enterprise employees and the population as a whole. Concluding the analysis carried out in this book, let us single out the drivers that stimulate the development of the system of adult education.

5.1. Learn to Work, or Work to Learn?

To successfully support the technological process, the personnel of the enterprise needs to have a set of skills. They include fundamental knowledge, literacy (basic cognitive skills), generic job skills concerning the technology used (they can be applied in different companies), as well as specific job skills (applicable in a particular company). According to G. Becker, different economic units pay for each type of skills, that is, the state, the employee himself, or his employer (Fig. 5.1).

Figure 5.1. Core Employee Skills and Sources of Funding for Their Development

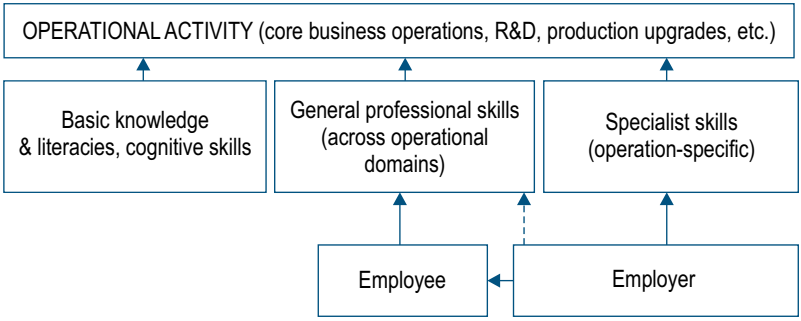


Generic skills are a type of technological knowledge and skill that can be used in many companies. They are paid by the employee or acquired through primary training in an educational organization and on-the-job training. However, employers are not ready to fully bear the cost of obtaining this skill by employees since labor mobility (the transfer of an employee to another enterprise) will lead to the loss of their investments. Employers are willing to pay employees to acquire special skills within companies. However, it makes sense to do it only if the employee has a sufficient level of general expertise.

Updating of generic technological skills is possible through obtaining another professional education. However, it is a time-consuming process. Besides, adults will have to receive this education for a fee. The expenses for updating knowledge and mastering new technology are borne almost exclusively by the employee (Fig. 5.2), who is not ready to bear them due to low wages. It hinders the training and acquisition of new skills.

Government educational certificates (or vouchers), which have become widespread in many developed countries of the world, can provide significant assistance in removing this barrier. Such a certificate covers a portion of the costs for training an employee to use the new technology. Now the employer will be more willing to take co-financing upon himself since he will be able to conclude a supple-

Figure 5.2. Sources of Funding for Adult Learning and Development

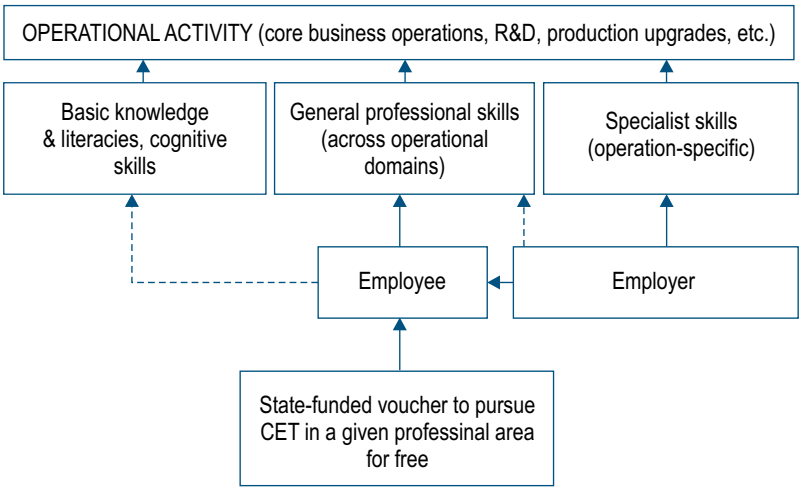


mentary contract for training with the possibility of returning the investment in the event of a sudden dismissal of the employee. The certificate helps the employee to cope with the financial burden of acquiring generic job skills and allows him to restore the interests of the parties and launch the market for continuing learning and development as a whole (Fig. 5.3).

Thus, adult education is carried out both by the employee (before he comes to the job) and by the enterprise. The latter does it in the course of work to update the necessary skills in the context of the renewing production process. Government support significantly reduces the barrier at which such co-financing of the parties begins.

The enterprises that make investments are the most interested in the development of training, and they provide for the expansion of entrepreneurial activity. Thus, they are fundamentally different from those enterprises and their managers that support business processes only organizationally. The expansion of entrepreneurial activity, expressed in an increase in investments in gross fixed capital (acquired real estate, fixed assets, equipment and devices), leads to a growth in the number of jobs and, accordingly, the scale of personnel training for work in newly established companies, guilds, departments, or laboratories. The budgets of successful investment

Figure 5.3. State Voucher Program as Funding Vehicle in Fostering Adult Learning and Development



projects initially include funds for training employees in proportion to the volume of newly purchased modern equipment (fixed assets). That is why training in such enterprises becomes an inevitable part of the production process launched for the first time.

The correlation between the population coverage with continuing learning and development and the volume of investment in gross fixed capital in many developing countries, as well as in the overwhelming majority of regions of the Russian Federation, shows that nowadays it is entrepreneurs-investors who play a key role in increasing the scale of adult education. Therefore, stimulating enterprises to expand production activities through the development of new investment projects is the weightiest reason for increasing the coverage of the adult population with education and training.

Enterprises and organizations that have recently launched and/or do not envisage investment projects in the short term are usually not so active in personnel training. Their resources are aimed at

increasing the benefit from existing technologies and therefore provide for the development of motivation, internal corporate culture, social competences (21st-century skills), and reducing turnover of the workforce. However, they do not include payment for the acquisition of any expensive industrial skills, which may be transferred to competitors in the event of dismissal of employees. Enterprises whose management understand the costs for training as a contribution to improving the efficiency of business processes (and build a policy corresponding to this understanding) can increase the volume of training in the case of co-financing of educational programs from both the government and the population. However, the costs and, accordingly, the scale of personnel training will be significantly lower than at enterprises that implement investment projects.

5.2. Reskilling as an Inevitable Part of Professional Life

The adults' decision to start training is based on a desire to get a higher-paid job or to develop an existing professional activity by expanding or updating skills or obtaining a different social status. It is the financial, economic, and social prospects that serve as the basis for the accumulation of resources and the assumption of monetary, temporal, and other obligations of adult citizens (or their households) to receive new education or training.

The receipt of higher education has the most noticeable effect on the formation of successful career paths of adults.

The award for higher education is the largest in all countries. In the Russian Federation, it is also higher among all other types of education. Beyond that, universal higher education is becoming a social norm in many developed countries, and the population strives not to stop at the education of another level, which reduces the social status of the worker.

Receiving higher education will be an incentive for the mastering of continuing learning and development programs if the latter can

be fully or partially considered in the form of intermediate "microdegrees". Furthermore, they should be included as part of a higher level of education in the form of applied courses, necessary internships, practical training sessions, course papers, and other compulsory educational and research activities planned by a higher education institution. In this regard, *the possibility of recognition of training and qualifications* received in the workplace in the course of labor activity takes on particular importance. They should be validated through the institutions of independent assessment of competences and the recognized certificates issued by them.

Employment through education. If the receipt of continuing education or training becomes a condition or opportunity for a new placement, the citizens themselves readily support the undergoing of educational programs. It is confirmed by the programs of regional employment services and co-financing of the Presidential program for the training of management personnel for the sectors of the national economy (concerning the participation of middle managers in the real sectors of the economy). Beyond that, electronic platforms are emerging. These are projects of personnel departments, which provide opportunities for job interviews with employers and direct employment, based on the results of online training (OTUS project, HeadHunter Academy).

Still, the population has not fully realized *the enhancement of its efficiency* through training. In modern Russian society, the attitude towards education as a cure for low performance has not taken root yet. However, one has already identified the directions of the market, where there is the greatest demand for additional educational programs for career development. Among the leaders, one may note programs for distance learning of a foreign language, financial and legal literacy, IT skills, as well as MBA programs, which (unlike other business programs) provide collective training for successful business colleagues and potential partners.

An integrated system of navigation, training, and assessment of the competences of the adult population would contribute to an in-

crease in the population's participation in such programs. However, it would have to allow not only presenting a recognized certificate but also initially explaining the basic principles of using education as a tool for achieving individual economic and social results and overcoming emotional and physical discomfort. Then it would have to allow choosing an adequate program for personal intellectual development.

Thus, to launch the market for continuing education programs for adults, it is required to primarily introduce:

— a financial mechanism to stimulate the updating of skills (for example, through budgetary certificates of co-financing) of adults and especially senior citizens;

— a system of independent assessment of qualifications and recognition of education and training received in the workplace and as a result of self-education (as part of secondary vocational and higher education programs);

— centers of advanced vocational education and training in priority high-tech sectors (at the premises of universities), especially taking into account requests for the competences of the digital economy; and

— creation of efficient navigation through the continuing education system, which provides citizens with an independent choice of programs for fine-tuning the competences of employees to the needs of the labor market.

The implementation of the proposed measures will make it possible to form a virtually new segment of education in the country. If up to 25 million people annually undergo training under continuing education programs on a permanent basis by 2025, the indicator of population coverage with education and training will reach the average European level (about 40% of all citizens). On average, an adult will spend up to one year on updating qualifications throughout his life, and it will increase the place of the Russian Federation in the UN Human Development Index.

CONCLUSION

When concluding the consideration of the topic, we can note that the Russian system of continuing education for adults generally demonstrates a very heterogeneous nature so far. On the one hand, having maintained corporate commitment, it remains strong in the formation of narrow professional knowledge and the ability to apply them in a range of high-tech industries. On the other hand, it does not provide either competitive human support or large-scale production or investment processes.

However, adult education can become one of the essential tools for ensuring economic growth and social stability in the Russian Federation. Our analysis shows that there are objective prerequisites for it.

The growth of economic activity in the real sector of the economy is already reflected in the system of implementation of continuing education programs, as well as in the structure of the training organizations that are becoming more independent. One may note a general trend towards an increase in the scale of trainees who have undergone training and reskilling. Professional motives for participating in continuing education serve as an internal driving factor for career development.

The emerging system of continuing education increasingly combines the interest of the employee and the employer, on the one hand, and on the other, the interest of the government that demonstrates attention to the professional growth and career of every adult citizen of the country. Modern educational programs that provide career growth and personal development cover not only working but also unemployed citizens, migrants, and older people. It creates the basis for their active longevity. Supporting educational programs for adults through personalized funding will allow enlarging the net-

work of independent providers that provide a high quality of skills updating, as well as the development of the 21st-century skills, entrepreneurial competences, enlightenment, flexible online programs, and collaborative learning, in accordance with the challenges of digitalization of life and high-tech production.

Universities and occupational education organizations, which have already received significant support (within the framework of federal programs) for the development of a high-tech base of in-demand educational programs and pertinent scientific research, begin to play a critical role in expanding the scale of skills updating and adult training. In the system of SVE organizations, niche specialism and flexible adjustment to the needs of industry-specific enterprises serve as factors that increase the volume of training under additional educational programs. At the same time, universities, as higher education institutions, remain the most attractive precisely because of the wide range of programs they provide. High-priority support of universities will allow implementing the most high-quality educational programs that are in demand among the population to update skills and competences.

The Russian national system of qualifications is at the stage of active formation, and it requires development. The system of recognition of on-the-job training has not been built yet, and there are not enough centers for assessing qualifications. The competition in the market and the increasing requirements for professional competences of employees are prerequisites for the enhanced development of the corporate education sector, both in terms of training and in terms of assessing acquired skills. An independent system for assessing the quality of education becomes the basis for the recognition of on-the-job training and self-education.

The role of entrepreneurs-investors in increasing the scale of training is crucial for the development of new models of interaction between employers and staff. To create motivation for co-financing the updating of qualifications of the Russian population from enter-

prises and citizens themselves, the organizations have already begun to use government educational certificates.

As a result, it can be argued that thus far the Russian Federation has formed the objective prerequisites for the functioning of the market of additional educational programs for adults, with the obligatory participation of the state as a regulator of this sector. It should stimulate its activity and significantly reduce the cost of the appropriate services for the population. The measures envisaged by the National Project "Education" must inevitably initiate the launch of this market.

BIBLIOGRAPHY

Sources in Russian

Amlaev K.R. et al. Meditsinskaya gramotnost (kompetentnost): sostoyanie problemy, sposoby otsenki, metodiki povysheniya gramotnosti patsientov v voprosakh zdorovia // Meditsinskiy vestnik Severnogo Kavkaza. 2012. Vol. 28. No. 4. P. 75–79.

Andreeva L.Yu., Somko M.L., Dzhemaev O.T. Perepodgotovka spetsialistov krupnykh kompaniy na osnove sozdaniya sistem upravleniya znaniyami v korporativnykh universitetakh // Prostranstvo ekonomiki. 2014. No. 2–3.

Anisimov A.A., Aniskin Yu.P. Organizatsiya korporativnogo obrazovaniya na baze tekhnologicheskikh mikroklasterov // Organizator proizvodstva. 2015. No. 3 (66). P. 61–67.

Anokhina V.V. Korporativnyi universitet v sovremennom dopolnitelnom obrazovanii vzroslykh // Izvestiya VolgGTU. 2008. No. 5.

Bekker G.S. Chelovecheskoe povedenie: ekonomicheskiy podkhod // Izbrannye trudy po ekonomicheskoy teorii. M.: HSE Univ., 2003.

Belekhova G.V. Otsenka finansovoy gramotnosti naseleniya i puti ee povysheniya // Problemy razvitiya territorii. 2012. Vol. 60. No. 4. P. 96–109.

Belyakov S.A. et al. Monitoring nepreryvnogo obrazovaniya: instrument upravleniya i sotsiologicheskie aspekty. M., 2006.

Bezborodova T.M. K voprosu ob opredelenii ponyatiya i administrativno-pravovogo statusa trudovogo migranta // Problemy sovremennoy ekonomiki. 2011. No. 4.

Bondarenko N.V. Masshtaby i mekhanizmy obucheniya rabotnikov kompaniyami // Monitoring ekonomiki obrazovaniya. Informatsionno-analiticheskiye materialy po rezultatam sotsiologicheskikh obsledovaniy. M.: HSE Univ., 2016. No. 2 (28).

Bondarenko N.V. Stanovlenie v Rossii nepreryvnogo obrazovaniya: analiz na osnove rezultatov obshcherossiyskikh oprosov vzroslogo nasele-

niya strany // Monitoring ekonomiki obrazovaniya. Informatsionnyi byulleten. M.: HSE Univ., 2017. No. 5 (104).

Bondarenko N.V., Krasilnikova M.D., Lysova T.S. Organizatsiya obucheniya personala v kompaniyakh i sotrudnichestvo predpriyatiy s sistemoy professionalnogo obrazovaniya // Monitoring ekonomiki obrazovaniya. Informatsionnyi byulleten. M.: HSE Univ., 2016. No. 10 (99).

Brutland G.Kh. Nashe obshchee budushchee. Doklad Komissii OON po okruzhayushchey srede i razvitiyu. 1987. M., 1988.

Bukreeva O.G. Kulturno-prosvetitelskaya deyatelnost popechitelstva o narodnoy trezvosti v Rossii v kontse XIX — nachale XX vekov // Kultura i obrazovanie: nauchno-informatsionnyi zhurnal vuzov kultury i iskusstv. 2014. No. 4 (15).

Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2010: statisticheskiy byulleten. Vol. I / Rosstat. M., 2010.

Dopolnitelnoe professionalnoe obrazovanie rabotnikov v organizatsiyakh v 2013: statisticheskiy byulleten. Vol. I / Rosstat. M., 2013.

Dukhon A.B., Zinkovsky K.V., Obraztsova O.I., Chepurenko A.Yu. Vliyanie programm predprinimatelskogo obrazovaniya na razvitie malogo biznesa v Rossii // Voprosy obrazovaniya. 2018. No. 2. P. 139–172.

Electronnoe nauchno-metodicheskoe izdanie “Kontsept.” <https://e-koncept.ru/2015/15306.htm>.

Federalnoe statisticheskoe nablyudenie uchastiya naseleniya v nepreyvnom obrazovanii po resultatam vyborochnogo obsledovaniya naseleniya v 2015 (forma No. 1-NO). Vol. I / Rosstat. M., 2016.

Froumin I.D., Dobryakova M.S., Barannikov K.A., Remorenko I.M. Universalnye kompetentnosti i novaya gramotnost: chemu uchit segodnya dlya uspekha zavtra. Predvaritelnye vyvody mezhdunarodnogo doklada o tendentsiyakh transformatsii shkolnogo obrazovaniya // Sovremennaya analitika obrazovaniya. HSE Univ.,. 2018. No. 2 (19).

Galitsky E.B., Levin M.I. Zatraty semey na obrazovaniye vzroslykh // Monitoring ekonomiki obrazovaniya. M.: HSE Univ., 2008, No. 2 (34). <http://www.hse.ru/data/2011/05/19/ 1214119541/infbul34.pdf>.

Gaponova O.S., Korshunov I.A. Faktory osnovaniya molodykh innovatsionnykh kompaniy v rezultate lokalizatsii tekhnologiy zarubezhnykh korporatsiy // Vestnik URFU. 2017. No. 2 (16). P. 208–226.

Gaponova O.S., Nazarova E.V. Teoreticheskie aspekty obucheniya i razvitiya personala v sovremennykh realiyakh ekonomicheskogo progressa // Aktualnye problemy sotsialno-ekonomicheskogo razvitiya i puti ikh resheniya: Materialy mezhdunarodnoy nauchno-prakticheskoy konferentsii. 21 fevralya 2013, Dzerzhinsk. Nizhegorodskiy gosudarstvennyi universitet im. N.I. Lobachevskogo, 2013.

Gastev A.K. Trudovye ustanovki. M, 1973.

Gershunsky B.S. Filosofiya obrazovaniya dlya XXI veka: Uchebnoe posobie dlya samoobrazovaniya. 2-e izd., pererab. i dop. M., 2002.

Gimpelson V., Kapelyushnikov R., Roshchin S. Rossiyskiy rynok truda: tendentsii, instituty, strukturnye izmeneniya. Doklad Tsentra trudovykh issledovaniy i Laboratorii issledovaniy rynka truda. M.: HSE Univ., 2017.

Gromkova M.T. Andragogika: teoriya i praktika obrazovaniya vzroslykh: Uchebnoe posobiye. M., 2012.

Gorshkov M.K., Klyucharev G.A. Nepreryvnoe obrazovanie v kontekste modernizatsii. M., 2011.

Ilinskaya Ya.A. Regionalnaya sistema dopolnitelnogo nepreryvnogo obrazovaniya kak resurs professionalnogo razvitiya lichnosti: Avtoref. dis. … d-ra ped. nauk. M., 2016.

Itogi vyborochnogo statisticheskogo nablyudeniya uchastiya naseleniya v nepreryvnom obrazovanii. <http://www.gks.ru/free_doc/new_site/population/trud/obraz/index.html>.

Kaganov V.Sh. Korporativnoe obuchenie kak faktor obespecheniya konkurentosposobnosti predprinimatelskikh struktur // Sovremennaya konkurentsiya. 2011. No. 6.

Kapelyushnikov R.I. Ekonomicheskie ocherki: metodologiya, instituty, chelovecheskiy kapital. M.: HSE Univ., 2016.

Klyucharev G.A. Ob “obuchayushchikhsya organizatsiyakh” i korporativnom obrazovanii v innovatsionnom kontekste // Ekonomicheskie i sotsialnye peremeny: fakty, tendentsii, prognoz. 2014. No. 6 (36). P. 121–133.

Klyucharev G.A., Didenko D.V., Latov Yu.V., Latova N.V. Nepreryvnoe obrazovanie — stimul chelovecheskogo razvitiya i faktor sotsialno-ekonomicheskikh neravenstv / Yu.V. Latov (ed.). M., 2014.

Kolesnikova I.A. Novaya gramotnost i novaya negramotnost XXI stoletiya // Nepreryvnoe obrazovanie: XXI vek. 2013. No. 2. P. 1–14.

Korotkov A.V. Ekosistema predprinimatelskogo obrazovaniya kak obyekt gosudarstvennoy podderzhki // Sovremennaya konkurentsiya. 2017. Vol. 11. No. 1 (61). P. 114–125.

Korotkov A.V., Zobnina M.R. Predprinimatelskoe obrazovanie: opredelenie i klassifikatsiya // Ekonomika i predprinimatelstvo. 2016. Vol. 75 (2). No. 10 (2). P. 290–295.

Korshunov I.A., Gaponova O.S. Organizatsionnoe upravlenie predpriyatiyami rannikh faz razvitiya. M., 2017.

Korshunov I.A., Gaponova O.S. Nepreryvnoe obrazovanie vzroslykh v kontekste ekonomicheskogo razvitiya i kachestva gosudarstvennogo upravleniya // Voprosy obrazovaniya. 2017. No. 4. P. 36–59.

Korshunov I.A., Kuzheleva K.S., Grachev B.A., Sergeyev K.A. Obuchenie i obrazovanie vzroslykh: vostrebovannye programmy, vozrastnaya i otraslevaya struktury // Fakty obrazovaniya. M.: HSE Univ., 2018. No. 1 (16).

Kostin V.A., Kliman S.V. Rol korporativnogo universiteta v realizatsii kadrovoy strategii kommercheskoy organizatsii // Sotsium i vlast. 2015. No. 1 (51). <http://cyberleninka.ru/article/n/rol-korporativnogo-universiteta-v-realizatsii-kadrovoy-strategii-kommercheskoy-organizatsii>.

Kyazimov K.G. Professionalnoe obuchenie i trudoustroystvo migrantov // Trud i sotsialnye otnosheniya. 2016. No. 4. P. 30–38.

Malichenko I.P. Virtualnyi korporativnyi universitet kak innovatsionnyi mekhanizm vzaimodeystviya biznesa i vuza v sisteme professionalnogo obrazovaniya // Kreativnaya ekonomika. 2014. No. 12 (96).

Masalimova A.R. Zarubezhnye tekhnologii korporativnogo obucheniya: sushchnost i ikh znacheniye dlya otechestvennoy praktiki nastavnicheskoy deyatelnosti // Kazanskiy pedagogicheskiy zhurnal. 2012. No. 4.

Mayorova L.N. Vliyaniye razvitiya malogo predprinimatelstva na ekonomicheskiy rost v Rossii: Avtoref. dis. … kand. ekon. nauk. M: GUU, 2008.

Memorandum nepreryvnogo obrazovaniya EU. Obshchestvo “Znanie” Rossii, 2001.

Mirapolis HCM (Human Capital Management). <http://www.mirapolis.ru/assessment-performance>.

Monitoring effektivnosti obrazovatelnykh organizatsiy vysshego obrazovaniya (forma No. 1) — Monitoring. <http://indicators.miccedu.ru/monitoring/?m=vpo>.

Monitoring ekonomiki obrazovaniya. <http://memo.hse.ru>.

Monitoring nepreryvnogo obrazovaniya: instrument upravleniya i sotsiologicheskiye aspekty / nauch. ruk. A.E. Karpukhina; Ser.: Monitoring. Obrazovaniye. Kadry. M., 2006.

Mukhina T.G., Koposov E.V., Borodachev V.V. Istoriya i perspektivy razvitiya otechestvennoy sistemy dopolnitelnogo professionalnogo obrazovaniya v usloviyakh vysshey shkoly: Monografiya. N. Novgorod, 2013.

Myazina E., Babitsky A. Reyting RBK: 15 liderov korporativnogo obrazovaniya. <https://www.rbc.ru/special/business/27/04/2015/552c5adf9a7947ba47f95877>.

Nelleman S., Podolsky O., Levina V. Analiz sostoyaniya sistemy obrazovaniya vzroslykh v Rossii. Sozdaniye vozmozhnostey priobreteniya rabotnikami starshego vozrasta navykov dlya prodolzheniya trudovoy deyatelnosti // Starenie naseleniya v Rossiyskoy Federatsii. Vsemirnyy bank, 2015.

Nesterov A.G. Evropeyskie kontseptsii nepreryvnogo obrazovaniya v nachale XXI veka // Nauchnyi dialog. 2012. No. 5.

Obrazovanie i nauka Respubliki Tatarstan: sostoyanie i perspektivy. <http://www.it-tat.ru/articles/edu/?ID=27>.

Obrazovanie vzroslykh na rubezhe vekov: voprosy metodologii, teorii i praktiki: v 4 t. T. I: Sotsialno-ekonomicheskie i pravovye predposylki razvitiya obrazovaniya vzroslykh. Kn. 1: Istoriya razvitiya obrazovaniya vzroslykh v Rossii / E.P. Tonkonogaya (ed.). SPb., 2000.

Okhvat vzroslogo naseleniya nepreryvnym obrazovaniem // Monitoring ekonomiki obrazovaniya. M.: HSE Univ., 2016. <http: www.memo.hse.ru/ind>.

Onushkin V.G., Ogarev E.I. Obrazovanie vzroslykh. Mezhdistsiplinarnyi slovar terminologii. SPb., 1995.

Pisareva L.I. Nepreryvnoe obrazovanie v Germanii: osnovy sozdaniya i problemy razvitiya // Problemy sovremennogo obrazovaniya. 2015. No. 1. P. 29–40.

Pokazateli dlya monitoringa otsenki effektivnosti deyatelnosti subyektov Rossiyskoy Federatsii / Rosstat <http://www.gks.ru/free_doc/new_site/rosstat/pok-monitor/pok-monitor.html>.

Popova I.P. Dopolnitelnoe obrazovanie kak kanal professionalnoy mobilnosti // Nepreryvnoe obrazovanie v politicheskom i ekonomicheskom kontekstakh: kollektivnaya monografiya / G.A. Klyucharev (ed.). M., 2008. P. 120–133.

Povyshenie kvalifikatsii i professionalnaya podgotovka rabotnikov organizatsiy v 2016. Vol. I / Rosstat. M., 2017.

Predlozheniya k migratsionnoy strategii Rossii do 2035 <https://www.csr.ru/wp-content/uploads/2017/09/Migration-Strategy-RUweb-1.pdf>.

Razvitie navykov dlya innovatsionnogo rosta v Rossii. M, 2015.

Rech Stalina I.V. pered vypusknikami voennykh akademiy 4 maya 1935 goda. <http://dslov.ru/txt/t10.htm>.

Roshchin S.Yu., Travkin P.V. Dopolnitelnoe professionalnoe obuchenie na rossiyskikh predpriyatiyakh // Zhurnal Novoy ekonomicheskoy assotsiatsii. 2015. No. 2 (26). P. 150–171.

Rossiyskiy rynok truda: tendentsii, instituty, strukturnye izmeneniya / pod red. V. Gimpelsona. R. Kapelyushnikova. S. Roshchina. M., 2017.

Ryazantsev S.V. Trudovaya migratsiya v stranakh SNG i Baltii: tendentsii, posledstviya, regulirovanie. M., 2007.

Shpotov B.M. Kompaniya Forda i Rossiya. 1909–1941 // SShA: ekonomika, politika, kultura. 1999. No. 5. P. 76–88.

Sotsialno-economicheskoe razvitie regionov — reyting po itogam 2016 goda. <http://riarating.ru/regions/20170530/630063753.html>.

Teoreticheskiye osnovy nepreryvnogo obrazovaniya / *V.G. Onushkin, E.I. Ogarev, A.L. Zagorskiy et al.*; V.G. Onushkin (ed.). M., 1987.

Travkin P.V. Dopolnitelnoe professionalnoe obrazovanie v Rossii: vliyanie na zarabotnuyu platu rabotnikov // Vestnik VGU. Ser.: Ekonomika i upravlenie. 2013. No. 1. P. 111–118.

V poiskach novogo “serebryanogo veka” v Rossii: faktory i posledstviya stareniya naseleniya. Obzornyi doklad Vsemirnogo banka. <http://documents.worldbank.org/curated/en/820371468190168559/pdf/99487-RUSSIAN-WP-PUBLIC-Box393204B-silver-aging-rus-web.pdf>.

Vebinary po migratsionnomu zakonodatelstvu. <https://www.migranto.ru/vebinary-dlya-migrantov>.

Venchurnye yarmarki Rossii. <www.rvf.ru>.

Vershlovsky S.G. Vzroslost kak kategoriya andragogiki // Voprosy obrazovaniya. 2013. No. 2. P. 285–297.

Vesnin V.R. Prakticheskiy menedzhment personala. M., 2014.

Vishnevskaya A., *Proskura E.* Istoriya sozdaniya korporativnykh universitetov // Biznes Shkola LERNER. Korporativnye Universitety. M., 2014. No. 50.

Vladislavlev A.P. Sistema nepreryvnogo obrazovaniya: sostoyanie i perspektivy. M., 1984.

Zakharova O.A. Razvitie korporativnogo obucheniya: ot "e-learning" do "we-learning" // OTO. 2013. No. 2. <http://cyberleninka.ru/article/n/razvitie-korporativnogo-obucheniya-ot-e-learning-do-welearning>.

Zelenova O.I. Effektivnost professionalnogo obucheniya v sisteme gosudarstvennoy sluzhby zanyatosti // Zhurnal issledovaniy sotsialnoy politiki. 2004. Vol. 4. No. 3. P. 367–380.

Zinurova R.I., Giniyatullina D.R. Upravlenie znaniyami v zarubezhnykh neftekhimicheskikh korporatsiyakh (na primere angliyskoy neftyanoy kompanii British Petroleum) // Vestnik Kazanskogo tekhnologicheskogo universiteta. 2010. No. 12.

Zinurova R.I., Tuzikov A.R. Tipy korporativnykh universitetov i ikh rol v innovatsionnom razvitii khimicheskoy i neftekhimicheskoy otrasli PRIFO // Vestnik Kazanskogo tekhnologicheskogo universiteta. 2010. No. 9. P. 806–816.

Zmeyev S.I. Primenenie andragogicheskikh printsipov obucheniya v podgotovke i povyshenii kvalifikatsii spetsialistov // Chelovek i obrazovanie. 2014. No. 1 (38). P. 8–14.

Zolotareva N.M., Ryabko T.V. O prioritetakh gosudarstvennoy politiki v razvitii nepreryvnogo obrazovaniya vzroslykh v Rossiyskoy Federatsii // Vestnik Yuzhno-Uralskogo gosudarstvennogo universiteta. Ser.: Obrazovanie. Pedagogicheskie nauki. 2016. Vol. 8. No. 2. P. 7–11.

Zyabreva V.S. O tsifrovoy gramotnosti, eye znachenii i razvitii (po materialam D.A.J. Belshaw) // Aktualnye problemy psikhologicheskogo znaniya. 2017. No. 2 (43). P. 100–106.

Sources in English and German

Acemoglu D., Pischke J.S. Beyond Becker: Training in imperfect labour markets // The Economic Journal. 1999. Vol. 109. No. 453. P. 112–142.

Acemoglu D., Pischke J.S. The structure of wages and investment in general training // Journal of political economy. 1999. Vol. 107. No. 3. P. 539–572.

Adult Education in Europe 2016 — A civil society view / Report of European Association for the Education of Adult. <http://www.eaea.org/media/policy-advocacy/policy-papers/country-reports_full-report-09-12-2016_without-marks.pdf>.

Allgemeine Informationen zum Berufsorientierungsprogramm. <http://www.berufsorientierungsprogramm.de/html/de/12.php>.

Autor D.H., Price B. The Changing Task Composition of the US Labor Market: An update of Autor, Levy, and Murnane (2003). MIT Working Paper, June 2013. <https://economics.mit.edu/files/9758>.

Bagnall R.G. Lifelong learning: Concepts and conceptions // International Journal of Lifelong Education (London: Routledge). 2000. Vol. 19. No. 1. P. 20–35.

Bassanini A. et al. Workplace Training in Europe. IZA Discussion Paper No. 1640. 2005. P. 187.

Baumgartner L.M. An update on transformational learning // New directions for adult and continuing education. 2001. No. 89. P. 15–24.

Becker G.S. Human Capital and Personal Distribution of Income: An analytical approach // *Becker G.S.* Human Capital. 2nd ed. N.Y.: Columbia University Press, 1975. P. 94–144.

BIBB wbmonitor V. 2.0.3. <www.wbmonitor.de>.

Bildung in Deutschland 2016. <www.bildungsbericht.de>.

Billett S. Promoting and supporting lifelong employability for Singapore's workers aged 45 and over. Institute for Adult Learning. Singapore, 2010. <www.ial.edu.sg>.

BMBF-bericht. <www.bmbf.de/_media/press/pm_0626-080.pdf>.

Busemeyer M.R., Trampusch C. (eds). The political economy of collective skill formation. Oxford University Press, 2005. P. 95–114.

Centre for Research on Education and Lifelong Learning. <https://crell.jrc.ec.europa.eu/>.

Class Differences: Online Education in the United States. 2010. <http://sloanconsortium.org/publications/survey/pdf/class_differences.pdf>.

Classification of learning activities (CLA). Eurostat Manual. EU Publications Office. Luxembourg. 2016. <http://ec.europa.eu/eurostat/documents/3859598/7659750/KS-GQ-15-011-EN-N.pdf

Collection of LifelongLearning Policies and Strategies of UNESCO Institute for Lifelong Learning. http://uil.unesco.org/lifelong-learning/lifelong-learningpolicies-database/collection-lifelong-learning-policies-and>.

CONFINTEAVIFinalReport.Hamburg:UNESCOInstituteforLifelongLearning, 2010. <http://unesdoc.unesco.org/images/0018/001877/187790e.pdf>.

Country specific reports. <http://www.cedefop.europa.eu/en/publicationsand-resources/country-reports/vet-in-europecountry-reports>.

David H., Katz L.F., Kearney M.S. The Polarization of the U.S. Labor Market // American Economic Review. 2006. No. 96. P. 189–194.

Delors J. Learning: The Treasure Within: Highlights: Report to UNESCO of the International Commission on Education for the Twenty-First Century. UNESCO, 1996. <http://unesdoc.unesco.org/images/0010/001095/109590eo.pdf>.

Denison E.F. The sources of economic growth in the United States and the alternatives before us. N.Y., 1962.

Denmark's strategy for lifelong learning — Education and lifelong skills upgrading for all Report to the European Commission. April 2007. <http://static.uvm.dk/Publikationer/2007/lifelonglearning/lifelong_learning.pdf>.

Department for Continuing Education University of Oxford. <https://www.conted.ox.ac.uk/about/our-history>.

Desjardins R. Participation in adult education opportunities: Evidence from PIAAC and policy trends in selected countries. Background paper prepared for the Education for All Global Monitoring Report 2015 "Education for All 2000-2015: achievements and challenges." <http://unesdoc.unesco.org/images/0023/002323/232396e.pdf>.

Deutsch EUTYDJCE // Informations stellender Laenderim Sekretariat der Kolk. Bonn, 2013.

Dewey J. The School and Society. Chicago: University of Chicago Press, 1900. <https://ia801408.us.archive.org/33/items/schoolsociety-00dewerich/schoolsociety00dewerich_bw.pdf >.

Dohmen D, Lopez V.C., Yelubayeva G. The macro-economic benefits of adult learning FiBS — Forschungsinstitut für Bildungs- und Sozialökonomie — Research Institute for the Economics of Education and Social Affairs. <http://2016.economicsofeducation.com/user/pdfsesiones/171.pdf>.

EACEA. <http://eacea.ec.europa.eu/llp/about_llp/about_llp_en.php>.

EAEA policy paper. Learning and skills for adults in Europe. December 2016. <http://www.eaea.org/media/policy-advocacy/eaea-statements/learning-and-skills-for-adults_final.pdf>.

EAEA Statements. <http://www.eaea.org/en/policy-advocacy/eaea-statements.html>.

Education for Sustainable Development Goals: Learning Objectives. 2017. <http://unesdoc.unesco.org/images/0024/002474/247444e.pdf>.

Education, Culture and Audiovisual Executive Agency. <http://eacea.ec.europa.eu/static/en/elearning/index.htm>.

eEurope — An information society for all. <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3Al24221>.

European Commission. Making a European area of lifelong learning a reality. Communication from the Commission 678. Brussels, 2001. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52001DC0678:EN:NOT>.

Eurostat. Participation rate in education and training (last 4 weeks) by sex and age. <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_lfs_01&lang=en>.

Eurostat Statistics Explained. Education and training: <http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Participation_rate_in_education_and_training,_2011_(%C2%B9)_(%25)_YB16.png>.

Faure E. et al. Learning to be: The world of education today and tomorrow. UNESCO, 1972. <http://unesdoc.unesco.org/images/0000/000018/001801e.pdf>.

Froumin I., Kouzminov Y. Common Legacy: Evolution of the institutional landscape of Soviet higher education // Huisman J., Smolentseva A., Froumin I. (eds). 25 Years of Transformations of Higher Education Systems in Post-Soviet Countries. Palgrave Studies in Global Higher Education. Palgrave Macmillan, Cham. 2018. <doi.org/10.1007/978-3-319-52980-6_2>.

Future Skills Workforce Ready WDA. Annual Report 2015–2016. <http://www.ssg-wsg.gov.sg/about/archive.html>.

GDP per capita. <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>.

Global report on adult learning and education. UNESCO Institute for Lifelong Learning, 2010.

Global report on adult learning and education. The Impact of Adult Learning and Education on Health and Well-Being, Employment and the Labour Market, Social, Civic and Community Life. UNESCO Institute for Lifelong Learning, 2016.

Görlitz K., Tamm M. The returns to voucher-financed training on wages, employment and job tasks // Economics of Education Review. 2016. P. 51–62.

Greenwald B.C., Stiglitz J.E. Industrial Policies, the creation of a learning society, and economic development // International Economic Association / World Bank Industrial Policy Roundtable in Washington, DC. 2012.

Greiff S. et al. Adaptive problem solving: Moving towards a new assessment domain in the second cycle of PIAAC // OECD Education Working Papers No. 156. 2017. <http://dx.doi.org/10.1787/90fde2f4-en>.

Griffin C. From education policy to lifelong learning strategies // The Age of Learning. London: Kogan Page, 2001. P. 41–54.

Gross fixed capital formation (current US$). <http://data.worldbank.org/indicator/NE.GDI.FTOT.C>.

Hanushek E., Woessman L. The role of education quality in economic growth // Education Matters. 2007. No. 3. P. 115–185.

Hardy W., Keister R., Lewandowski P. Educational upgrading, structural change and the task composition of jobs in Europe. Economics of Transition. Vol. 26 (2). 2018. P. 201–231. <doi: 10.1111/ecot.12145>.

Heckman J.J., Kautz T. Hard evidence on soft skills // Labour Economics. 2012. Vol. 19. No. 4. P. 451–464. <http://dx.doi.org/10.3386/w18121.>.

Heckman J.J., Kautz T. Fostering and measuring skills: Interventions that improve character and cognition. National Bureau of Economic Research, 2013. No. w19656. <http://dx.doi.org/10.3386/w19656>.

Holzer H. Is there a gap between employer skill needs and the skills of the work force? // Transitions in work and learning: Implications for assessment. 1997. P. 6–33.

Horrigan J.B. Lifelong learning and technology. Pew Research Center, 2016. <http://www. pewinternet. org/2016/03/22/lifelong-learningand-technology>.

International Standard Classification of Education. ISCED 2011. P. 11–12, 76–77, 80–81. <http://www.uis.unesco.org/Education/Documents/isced-2011-en.pdf>.

Isenberg D.J. How to start an entrepreneurial revolution // Harvard Business Review. 2010. Vol. 88. No. 6. P. 40–50.

Kankaraš M. Personality matters: Relevance and assessment of personality characteristics. OECD Education Working Papers. No. 157. OECD Publishing. 2017. <http://dx.doi.org/10.1787/8a294376-en>.

Karpov G.M. Grand Embassy and the first trip abroad of Peter I. Kaliningrad, 1997.

Key competences for lifelong learning: European Reference Framework, Publications Office of the European Union. <https://www.erasmusplus.org.uk/file/272/download>.

Knowles M.S., Holton III E.E., Swanson R.A. The Adult Learner: The definitive classic in adult education and human resource development. 6th ed. London, N.Y.: ELSEVIER Butterworth Heinemann, 2005.

Kwan B., Frankish J., Rootman I. The development and validation of measures of "health literacy" in different populations // UBC Institute of Health Promotion Research and University of Victoria Community Health Promotion Research. 2006.

Larrotta C. Immigrants to the United States and Adult Education Services // New Directions for Adult and Continuing Education. 2017. No. 155. P. 61–69.

Lengrand P. An Introduction to Lifelong Education. Paris: UNESCO, 1970. Lifelong learning strategy 2011. Ministry of Education, Science, Research and Sport of the Slovak Republic, 2012. <http://uil.unesco.org/system/files/slovakia-strategy-of-lifelong-learning-and-lifelong-guidance.pdf>.

Lindeman E.C. The Meaning of Adult Education. N.Y.: New Republic, 1926.

Mankiw N., Gregory D., Weil D. A contribution to the empirics of economic growth // Quarterly Journal of Economics. 1992. Vol. 107. No. 2. P. 407–437.

Manninen J., Meriläinen M. Benefits of lifelong learning: BeLL survey results // Work Package Report, Project BeLL–Benefits for Lifelong Learning. 2014. <https://www.bell-project. eu/cms/wp-content/uploads/2014/06/BeLL-Survey-results. pdf.>.

Min Competencemappe. <www.minkompetencemappe.dk>.

Mincer J. Schooling, experience and earnings. N.Y., 1975.

Mincer J. The distribution of labor incomes: a survey with special reference to the human capital approach // Journal of Economic Literature. 1970. Vol. 8. No. 1. P. 1–26.

Abramovitz M. Simon Kuznets (1901–1985) // The Journal of Economic History. 1986. Vol. 46. No. 1. P. 241–246.

Müller N., Behringer F. Subsidies and levies as policy instruments to encourage employer-provided training // OECD Education Working Papers. 2012. No. 80. <http://dx.doi.org/10.1787/5k97b083v1vb-en>.

National Research Council. Education for life and work: Developing transferable knowledge and skills in the 21st century. National Academies Press, 2013. <http://dx.doi.org/10.17226/13398.>.

New Skills Agenda for Europe. <http://ec.europa.eu/social/main.jsp?catId=1223&langId=en>.

Nyyssoelae K., Haemaelaeinen K. Lifelong learning in Finland. Cedefop Panorama series. Luxembourg, 2001.

Ono T. Production system of Toyota. Going away from mass production. M.: Institute of complex strategic researches, 2008.

OECD Publishing, 2016. <http://www.keepeek.com/Digital-Asset-Management/oecd/education/skills-matter_9789264258051-en#.WOPEJVJMSUk#page1>.

Pépin L. The History of EU Cooperation in the Field of Education and Training: How lifelong learning became a strategic objective // European Journal of Education. 2007. Vol. 42. No. 1. P. 121–132.

Pritchett L. The Rebirth of Education: Schooling Ain't Learning. Brookings Institution Press Baltimore, MD. P. 272.

Report on Vocational Education and Training, 2016. Republished in a new edition in 1989 by The Oklahoma Research Center for Continuing Professional and Higher Education. <http://www.infed.org/thinkers/et-lind.htm>.

Roshchin S., Travkin P. Determinants of on-the-job training in enterprises: the Russian case // European Journal of Training and Development. 2017. Vol. 41. No. 9. P. 758–775. <https:// doi.org/10.1108/EJTD-05-2017-0050>.

Senge P. The Fifth Discipline: The art and practice of the learning organization. N.Y.: Double Day, 1994.

Schultz Th. W. Investment in human capital: The role of education and of research. N.Y., 1971.

Singapore Work Force Skills Qualifications. <www.ssg.gov.sg/wsq.html>.

Singh M., Duvekot R. Linking Recognition Practices and National Qualifications Frameworks: International benchmarking of experiences and strategies on the recognition, validation and accreditation (RVA) of non-formal and informal learning. — UNESCO Institute for Lifelong Learning. Hamburg, 2013.

Skills for America's Future. <www.skillsforamericasfuture.com>.

Skills Future Singapore (SSG). <www.ssg-wsg.gov.sg>.

Skills Matter: Further results from the survey of adult skills / OECD. OECD Skills Studies. OECD Publishing, 2015. <http://www.keepeek.com/Digital-Asset-Management/oecd/education/skills-matter_9789264258051-en#.Wak8I4rwHLw>.

Steinlicht C.L. Lean Production and the organizational life cycle: A survey of Lean tool effectiveness in young and mature organizations // Organization Studies. 2010. Vol. 15. No. 3. P. 7–28.

Survey of Adult Skills (PIAAC). <http: //www.oecd.org/skills/piaac/>

Bibliography

Tan H. et al. Skills shortages and training in Russian enterprises // ICFAI Journal of Training and Development. 2008. Vol. 1. P. 7–59.

Tate P. Lifelong learning in the USA: A focus on innovation and efficiency for the 21st century learner // International Journal of Continuing Education and Lifelong Learning. 2011. Vol. 4. No. 1. P. 1–23.

The Role of National Qualifications Systems in Promoting Lifelong Learning. Background Report for the United Kingdom. 2003. <http://www.oecd.org/education/innovation-education/33774110.pdf>.

Thematic review on adult learning Denmark. 2000. <http://www.oecd.org/dataoecd/51/8/1892178.pdf>.

The Worldwide Governance Indicators (WGI). <http://info.worldbank.org/governance/wgi/#home>.

Travkin P., Sharunina A. The returns to training in Russia: A difference in differences analysis // International Journal of Training and Development. 2016. Vol. 20. No. 4. P. 262–279.

UNESCO Global report on adult learning and education, 2009.

UNESCO Institute for Lifelong Learning. <http://uil.unesco.org>.

What is Environmental Literacy? <http://www.fundee.org/facts/envlit/whatisenvlit.htm>.

World Economic Forum. New vision for education: Unlocking the potential of technology. World Economic Forum, Geneva, Switzerland, 2015.

Worldwide Governance Indicator. The World Bank. <http://info.worldbank.org/governance/wgi/>.

Yeaxlee B.A. Lifelong Education, London: Cassell, 1929. Republished 1988.

Young K., Rosenberg E. Lifelong Learning in the United States and Japan // Lifelong Learning Institute Review. 2006. Vol. 1. P. 69–85.

Zemsky R. Skills and the economy: An employer context for understanding the school-to-work transition // Transitions in work and learning: Implications for assessment. 1997. P. 34–61.

Adult Education in Russia: Never Stop Learning / I. Korshunov, O. Gaponova, V. Peshkova; I. Froumin and I. Korshunov (eds); I. Manokhin (transl.); HSE University, Institute of Education. — Electronic text data (1317 KB). — Moscow: HSE Publishing House, 2022. — 280 pp. — (Russian Education: Achievements, Challenges and Prospects series / Ya. Kuzminov and I. Froumin (eds)). — ISBN 978-5-7598-2442-8.

A20

The monograph is devoted to the analysis of the system of adult education in the Russian Federation in the context of global trends. The primary task of the book is to show how the adult population's involvement in education can be correlated with the socio-economic results of individual enterprises and territories, as well as the professional and personal development of citizens throughout their lives.

The readers are provided with the history of formation and modern data on the state of this level of education. Moreover, they can find proposals for specific measures based on the best international practices and making it possible to give impetus to the country's economic development through the acquisition and use of in-demand skills. The measures under consideration affect investment and production activities. Beyond that, they imply the development of the employment career of citizens, support for entrepreneurial activity, and the inclusion of qualifications (obtained in the course of work, self-education, and collaborative learning) in training at a university or college.

The book will help the heads of educational organizations to offer popular types and forms of education for an adult audience in the framework of existing educational organizations. The heads of the executive authorities of the constituent entities of the Russian Federation will be able to form competitive regional systems of adult education. Such systems may increase the investment attractiveness of territories, contribute to staffing the industrial growth of their regions, and ensure the corresponding positive political results.

UDC 378.046.4
LBC 74.3

Scientific electronic edition

Russian Education:
Achievements, Challenges and Prospects
collective monograph series

Ilya Korshunov
Olga Gaponova
Vera Peshkova

ADULT EDUCATION IN RUSSIA: NEVER STOP LEARNING

Editors:
Ilya Korshunov and Isak Froumin

Proofreader *T. Korshunova*
Desktop publishing *N. Puzanova*
Cover design:
"Obraz Mysli" design and advertising studio

Format 60×90/16. 1317 KB
Publ. № 2605

HSE University
101000, Moscow, ul. Myasnitskaya, 20
https://www.hse.ru/
Phone: +7 495 772-95-90*15285

HSE UNIVERSITY