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Evolving Concepts, Trends, and Challenges in the Internationalization of Higher Education in the World

Hans de Wit

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Abstract. Internationalization as a concept and strategic agenda is a relatively new but broad and varied phenomenon, driven by a dynamic combination of political, economic, socio-cultural and academic rationales and stakeholders. This article addresses the following points: What are the historical dimensions of internationalization? What are the key factors in international higher educa-

tion that are impacted by and impact this phenomenon? How do we understand its evolution as a concept? What national policies are developed to enhance the international competitiveness of higher education? What are the implications for institutional strategies for internationalization? It concludes with some lessons and recommendations for Russian higher education to learn from these trends and issues concerning internationalization in higher education.

Keywords: internationalization, historical dimensions, international higher education, internationalization concepts, national policies, institutional strategies, Russian higher education

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Internationalization as a concept and strategic agenda is a relatively new but broad and varied phenomenon, driven by a dynamic combination of political, economic, socio-cultural and academic rationales and stakeholders. Its impact on regions, countries and institutions varies according to their particular contexts. This implies that there is no single model for internationalization that fits all. What are the historical dimensions of internationalization? What are the key factors in international higher education that are impacted by and impact this phenomenon? How do we understand its evolution as a concept? What national policies are developed to enhance the international competitiveness of higher education? What are the implications for institutional strategies for internationalization? And what lessons can Russian higher education learn from these trends and issues concerning internationalization in higher education?

1. Historical Dimensions of Internationalization¹

One can argue that higher education by its nature always has been international. Altbach [1998] refers to the university as an institution that is global by nature and history. Kerr (1994) states that universities are essentially international, but at the same time acknowledges that “they have been living, increasingly, in a world of nation-states that have designs on them.” (p. 6).

As de Wit and Merckx [2012: 43] (see also [de Wit 2002: 3–18]) remark though, references to the global nature of universities ignore the fact that universities mostly originated in the 18th and 19th century and had a clearly national orientation. Neave [1997] and Scott [1998] also refer to the myth of the international university.

The international orientation of universities has changed dramatically over the centuries and takes substantially different and more complex forms and approaches today. What now is called ‘internationalization of higher education’ as a concept and strategy is a recent phenomenon that has emerged over the last 30 years. Its roots reach back over centuries, while it has been interrupted by more national orientations.

1.1. Medieval Roots

Many publications on the internationalization of higher education refer back to the Middle Ages and the Renaissance period, when, in addition to religious pilgrims, university students and professors were a familiar sight on the roads of Europe [de Ridder-Symoens 1992]. While limited and scattered in comparison to the European Higher Education Area we know today, we can still speak of a medieval ‘European space’ defined by a common religion, and a shared language (Latin) and set of academic practices [Neave 1997: 6]. The resemblance may only be superficial, but we can still see similarities to the promotion of mobility and the broadening of experience, common qualification structures and the gradual growth of English as the common academic language today [de Wit 2002: 6].

1.2. National Models

Most universities originated in the 18th and 19th centuries with a distinct national orientation and function. In many cases, there was a process of de-Europeanisation. Mobility was rarely encouraged or even prohibited, and Latin as the universal language of instruction gave way to national languages. The transition was gradual. Hamerstein [1996: 624] mentions the gradual prohibition of study abroad in many countries; the displacement of Latin by vernacular languages; and the replacement of the academic pilgrims by the ‘grand tour’ which focused more on the cultural than on the academic experience. As de Wit [2002: 7] observes, universities became institutions that served the professional needs and ideological demands of the new nations in Europe. Scott [1998] observes that “paradoxically perhaps, before it

¹ This section builds on [de Wit et al. 2015; Hunter, de Wit 2016].

became an international institution the university had first to become a national institution — just as internationalization presupposes the existence of nation states.” (p. 123)

In this more national period of higher education, international projects were not completely absent. As de Wit [2002: 7] observes, three international aspects can be identified: export of higher education systems, dissemination of research, and individual mobility of students and scholars. (See [de Wit 2002: 7–10; de Wit, Merkx 2012: 44–47].)

1.3. Impact of Two World Wars

Political events in the first half of the 20th century led to a focus on stimulating peace and mutual understanding through international cooperation and exchange. The creation of the Institute of International Education (IIE) in the United States in 1919, the Deutscher Akademischer Austauschdienst (DAAD) in Germany in 1925, and the British Council in the UK in 1934 are illustrations of this development. In the aftermath of World War I, it was strongly driven by rationales as peace and mutual understanding, with the United States taking a more leading role than before, mainly as a result of an increased immigration of scholars from Europe [de Wit, Merkx 2012: 47].

This trend continued after 1945 and the end of the Second World War through the Fulbright Program, given that Europe was still recovering from the devastation of war and concentrating its efforts on reconstruction. Goodwin and Nacht [1991] refer to this shift by observing that “views of the world in U.S. higher education were transformed almost overnight by World War II. From a cultural colony the nation was changed at least in its own eyes, into the metropolis: from the periphery it moved triumphantly to the center” (p. 4–5). Cunningham [1991] describes a similar shift for Canada. Rationales as national security and foreign policy became the real forces driving the development of international education after World War II, even though sometimes still using the rationales of peace and mutual understanding from before World War II, for instance in the Fulbright program of 1946 [de Wit, Merkx 2012]. De Wit [2002] describes similar trends for the Soviet Union. The Cold War became the principal rationale for an international dimension of higher education, which moved from incidental and individual activities into organized international education programs, driven more by national governments than by universities [Hunter, de Wit 2016: 51].

While the two big superpowers became active in international education for reasons of national security and foreign policy, the rest of Europe played a more marginal role.

1.4. The European Model

The European Community strengthened as an economic and political power between 1950 and 1970, but it was not until the second half of the 1980’s that European programs for education and research emerged. Its flagship program ‘Erasmus’ itself grew out of smaller

initiatives that had been introduced in Germany and Sweden in the 1970's and a European pilot program from the early 1980's, and was later grouped together with similar initiatives in the 90's under the umbrella program Socrates, evolving more recently into Erasmus+, an even broader program embracing education, sports and youth programs [de Wit 2002].

As Hunter and de Wit [2016] state, Erasmus and other programs were not based on any educational rationales and roles of the European Community until the Treaty of Maastricht in 1992, but rather, they had their foundation in the need for more competitiveness in relation to the United States and Japan, and in the desire to nurture a sense of European citizenship. The program activities have always been based primarily on cooperation through student and staff exchanges, joint curriculum development and joint research projects and the enthusiastic institutional response to these programs set a clear path for the European approach to internationalization.

Erasmus has had an even greater impact on the internationalization and reform of higher education than the mere exchange of students and teachers. It piloted the European Credit Transfer System (ECTS) and initiated access to EU membership for countries in Central and Eastern Europe and other aspiring candidates. It paved the way for the Bologna Process and the realization of the European Higher Education Area (EHEA), which in turn has generated the European Commission's first comprehensive internationalization strategy: *European Higher Education in the World* (2013) [Hunter, de Wit, 2016].

Within Europe, the United Kingdom was the exception to that rule. In 1980, the Thatcher Government introduced full-cost fees for international students, which meant that the main focus of British universities became international student recruitment for income generation, the end of humanitarianism in international education. Similar models followed in other English-speaking countries, in particular Australia. Universities may like to consider themselves essentially international institutions, but they act within national regulatory frameworks, and the shift in the English-speaking countries compared to continental Europe, that stayed for another 25 years more in a co-operative model of international education, is a manifestation of this.

The United States, in absolute numbers an active player but as percentage of overall student enrolments less, saw a rather unrelated series of international policies and activities, mainly at the institutional level, and as far as the federal level concerned more driven by national security and foreign policy: study abroad, international students, area studies.

**2. Global Trends
in Higher
Education
Affecting
Internationalization
Policies²**

Besides the historical evolution of the international dimensions as described above, internationalization must also be seen in the context of the changing role and position of higher education in the world, as internationalization can only be seen in its broader context. The main misconception about internationalization is that we consider internationalization too much as a goal in itself instead of as a means to an end. Internationalization is not more and less than a way to enhance the quality of education and research and their service to society.

Higher Education has experienced dramatic expansion in the past half-century. Massification has changed the reality of postsecondary education everywhere. At the same time, the global knowledge economy has made higher education and research a key player and the international dimensions of universities more important than ever. What are the major trends in higher education worldwide: massification on the one hand, and the global knowledge economy on the other hand, and how they relate to internationalization. We also focus on autonomy and academic freedom, and the role of reputation, rankings and excellence, and the changing political climate as factors influencing the internationalization in higher education.

2.1. Massification

During the last five decades, the higher education landscape has changed dramatically. Once the privilege of an elite social class, gross enrollment ratios (GRE) in postsecondary education have mushroomed to more than 50% in many countries. There are more than 200 million students studying globally at an untold number of institutions focusing on every specialization possible. In much of the world, massification is a key phenomenon. Emerging economies, including China, India, and Latin America (with gross enrollment ratios of 37%, 22% and 35 %, respectively), are expanding their enrollment rates toward 50% or more as is common in the developed world. Even countries in Africa, still at the elite phase of less than 15% of GRE, the demand for higher education as a result of improved primary and secondary education and an emerging middle-class, is rapidly expanding. On the other side, one can observe a saturation in demand in countries which already have moved far beyond the 50% GRE characteristic of universal enrollment, such as the United States, the United Kingdom, continental Europe, Canada, Australia, South Korea and Japan. In those places, for demographic and other reasons, the supply of tertiary places in particular in STEM fields is starting to become higher than demand.

The relationship between massification and internationalization is manifest. International students and scholars are needed to fill the demand for graduates in these fields. Such students are mainly coming from the developing and emerging economies, where there is still

² This section builds on [Altbach et al. 2017; de Wit, Altbach 2018].

an ongoing demand for quality higher education, resulting in brain drain and related decrease in research and top talent capacity in these countries. In the current anti-immigration climate, tensions increase between the need for imported high skilled talents and the desire to reduce the influx of immigrants.

2.2. The Global Knowledge Economy

The other key element in higher education development and in internationalization in the past half-century has been the impact of the global knowledge economy—the increasingly technology and science based globalized set of economic relations that requires high levels of knowledge, skills, and sophisticated international relations. Research-intensive universities play a particularly important part in the global knowledge economy. Not only do they educate top talent but they are also the main producers of basic research in most countries. Research universities are among the main internationally-linked institutions. They have strong links with similar institutions around the globe, host international faculty and students, and increasingly function in the global language of science and scholarship—English.

2.3. Autonomy and Academic Freedom

The idea of university autonomy has a strong basis in the development of the university as we know it. It is strongly embedded in the rise of the research-oriented Humboldtian university in the early 19th century, in Latin American higher education after the Cordoba reform of 1918, and in the further evolution of universities around the world. Autonomy and academic freedom are at the very core of the mission of the university. It is an essential basis for quality higher education, teaching and research [Altbach 2016]. Academic freedom has a long and controversial history, including confrontations with or threats from the Catholic Church, Nazi-Germany, Cold War politics, and dictatorships in developing countries. The current political climate will lead to even more attacks on academic freedom, as is manifested in countries like Turkey, The Philippines, Thailand, China and many others. This will hinder the development of quality higher education and research, but also international cooperation and exchange. “More attention needs to be given to the mission and values of the university, for without academic freedom, universities cannot achieve their potential or fully contribute to the emerging knowledge-based society” [Altbach 2016: 239].

2.4. Reputation and Rankings

National, regional and global university rankings are driving the agendas of institutional leaders and national governments more than ever. Many governments, in particular in the North but increasingly also in the South, create excellence programs and investment schemes to become more globally competitive, have world-class universities and move higher in the rankings. While on the one hand there is a call for more access and equity, governments and institutions of higher edu-

cation are striving for more excellence in research and teaching and learning.

Salmi [2009] summarizes what separates elite research universities from the rest as a high concentration of talents; abundant resources; and favorable and autonomous governance. Excellence initiatives in for instance Germany, France, Japan, Russia, China, and other countries have strengthened national system differentiation by separating a new elite sector of world-class universities from other more nationally and regionally-oriented research universities.

Rankings—national, regional, global, institutional, by discipline and across an increasing number of other dimensions—have come to play an ever more important role in higher education. Global ranking has remade global higher education in three ways, according to Marginson [2017]. First, *competition*, the idea of higher education as a competitive market of universities and countries. Second, *hierarchy*, as a core element of the system of valuation. Third, *performance*, a performance economy driving “an often frenetic culture of continuous improvement in each institution.” Yudkevich, Altbach, and Rumbley [2016] speak of the “Global Academic Rankings Game,” in which only a small portion of the higher education sector competes. This minority of institutions gets all the attention and forces governments and institutions to “compete” without acknowledging the need for differentiation. As Altbach and Hazelkorn [2017] state: “Prestige and reputation have become dominant drivers rather than pursuance of quality and student achievement, intensifying social stratification and reputational differentiation.” (p. 10)

The relationship between excellence initiatives, rankings and internationalization is clear. They reflect the global competitive nature of higher education of the elite research universities, they stimulate competition for international students and scholars, and they are driven by quantitative international indicators: number of international students, number of international staff, and number of international co-authors of publications. It drives national governments and institutions to invest in more global research, to use English as language of research and education, and to focus on international recruitment strategies.

2.5. Changing Economic and Political Climate

The emphasis in internationalization has traditionally been on exchange and co-operation and there continues to be a rhetoric around the need to understand different cultures and their languages. Nevertheless, a gradual but increasingly visible shift has been apparent since the second half of the 1990's towards a more competitive internationalization. Van der Wende [2001] calls this a shift in paradigm from cooperation to competition. De Wit et al. [2017: 232] speak of the globalization of internationalization, and the choice for higher education in the emerging and developing world between a more competitive direction of internationalization or a more socially responsible approach.

But a counter-reaction is emerging. The rise of nationalist-populist movements and governments, immigration bans, attacks on academic freedom, anti-globalism and in Europe anti-integration (Brexit), all might have negative implications for internationalization.

Manifestations of this trend are Brexit in the UK, the Trump Administration in the US, but also more nationalist inward looking movements in continental Europe, in Russia, China, Turkey, the Philippines, Israel, to mention some main ones [Altbach, de Wit 2016; 2017]. It is too early to tell what the exact and direct implications of this development will be, but it will most likely have a changing and accelerating effect on mobility patterns in higher education, on autonomy and academic freedom, on the privatization and commercialization in higher education, as well as other key dimensions of global higher education.

3. Implications for Internationalization

The massification of higher education and the increasing importance of higher education and research for the global knowledge economy, result in an increasing importance of its internationalization. There are now close to five million students studying abroad, double the amount of ten years ago, and predictions are a further increase to at least 8 million in the next decade. There is increasing global competition for international students taking place. The classic divide between those countries which are sending (mainly the emerging and developing countries) and those who are receiving (mainly the developed and in particular English speaking countries plus Germany and France), is shifting, and the current political climate will accelerate that process in the years to come. The international student industry has become a more global and competitive market.

There is also increasing competition for academic staff. The presence of international faculty within higher education institutions and systems around the world is an important dimension of higher education in the global knowledge economy. Yet the scope and nature of international mobility of faculty is a rather unknown and understudied phenomenon; there is a lack of consensus with respect to what defines as an 'international' academic; and there are different profiles for the institutions recruiting them: from the elite research universities recruiting the most sought-after academics on the one side of the spectrum to institutions or systems facing local shortages of faculty and recruit regional and international faculty to meet basic operational needs [Yudkevich, Altbach, Rumbley 2017].

There is growing demand and recognition for 'internationalization at home', including internationalization of the curriculum, teaching and learning, learning outcomes and global citizenship development. The reality is that only a very small percentage of scholars and students have the opportunity or even the desire to go abroad for a full degree or short term, ranging from 1-5% in most countries in the world to 20-30% in countries like Germany and The Netherlands. And this

implies that one has to internationalize at home, to be able to equip all students for the knowledge society we live in.

The internationalization of research is another dimension of this phenomenon. Like the case of international faculty, the internationalization of graduate education and research, including international co-authorship and other international research benchmarks, is receiving far less attention, other than through international rankings. Research, however, becomes a more complex enterprise and requires more international collaboration and competition than ever. Top academic talent is a scarce commodity and processes around issues such as patents and knowledge transfer require more support than in the past. Long-term planning for research infrastructure, increased research capacity, development of new research platforms and better co-ordination between research units, all require a more strategic focus on capacity development and international research policies and systems. The growth in international research funding, patents, publications and citations requires the development of research teams of a global nature. Bibliometric analysis yields evidence of increasing scientific collaboration with the international scientific community. Talented doctoral students and scholars are the international human capital on which research and development and innovation build. The dominance of English as the lingua franca in research is pervasive and has also expanded to teaching and learning. This, together with the increasing attention to international rankings and the role of research in them, explains why in recent years more attention is given to the development of national and institutional strategies for the internationalization of research.

Other elements of internationalization are international branding, reputation and rankings. The agenda of internationalization increasingly is driven by the rankings and the quantitative international indicators they rely on: number of international students, number of international faculty and number of internationally co-authored publications. These indicators ignore the relevance of internationalization at home and of teaching and learning.

According to de Wit, Hunter, Egon-Polak and Howard [2015], internationalization needs to evolve into a more comprehensive, more intentional, and less elitist (for all students and staff) process, less focused on mobility and less economically driven, with the goal to enhance the quality of education and research and make a meaningful contribution to society.

4. Internationalization, an Evolving Concept

Although, as described above higher education has always had international dimensions, internationalization as a concept and strategic factor is a rather young phenomenon, resulting from the fact that higher education at the system and institutional level needed to react to and act in a more global knowledge society and economy.

A gradual move of internationalization from margin to core has taken place from the 1980s onwards as a consequence of such developments as the increasing importance of research and education for economic development (the knowledge economy and society), the rapidly growing demand for higher education in the world, the end of the Cold War, and regional cooperation in higher education, the later particularly in Europe.

In the 1980s and 1990s, the main focus was on mobility. This came as a result of the unmet demand for higher education, which resulted in a drastic increase in international degree mobility of students, mainly from the developing world to the developed world; the growth of short term credit mobility of students, in particular in Europe as a result of Erasmus; an increase in short term faculty mobility, primarily for research; and a gradual growth in franchise operations, branch campuses and other forms of transnational education.

4.1. Abroad and at Home

This focus on what Jane Knight [2012] refers to as ‘Internationalization Abroad’, is still prevalent. But by the turn of the century, there also emerged a need for higher education institutions to respond to a compelling call for globally competent citizens and professionals. This imperative requires paying attention to the far larger group of non-mobile students and faculty, and to internationalization of the curriculum and teaching and learning. As such, the notions of ‘Internationalization at Home’ and ‘Internationalization of the Curriculum’ came to the fore. The first one is defined as:

“Internationalization at Home is the purposeful integration of international and intercultural dimensions into the formal and informal curriculum for all students within domestic learning environments” [Beelen, Jones, 2015].

The second one as:

“Internationalization of the curriculum is the process of incorporating international, intercultural and global dimensions into the content of the curriculum as well as the learning outcomes, assessment tasks, teaching methods and support services of a program of study” [Leask 2015].

But more and more they are considered to be quite similar in content and focus.

Over the past decade, the relationship between these two components—internationalization at home and abroad—and the need to create a more central, integrated and systemic approach to internationalization, in order to eliminate fragmentation and marginalization, has spurred an interest in ‘Comprehensive Internationalization’:

“A Commitment and Action to Infuse International, Global and Comparative Content and Perspective throughout the Teaching, Research and Service Missions of Higher Education. It shapes Institutional Ethos and Values and touches the Entire Higher Education Enterprise. It not only impacts all of Campus Life, but the Institution’s External Frameworks of Reference, Partnerships and Relationships” [Hudzik 2015].

4.2. Global Trends in Internationalization

In general terms one can say that internationalization over the past 30 years has seen the following key characteristics:

- More focused on internationalization abroad than on internationalization at home
- More ad hoc, fragmented and marginal than strategic, comprehensive and central in policies
- More in the interest of a small, elite subset of students and faculty than focused on global and intercultural outcomes for all
- Directed by a constantly shifting range of political, economic, social/cultural, and educational rationales, with increasing focus on economic motivations
- Increasingly driven by national, regional, and global rankings
- Little alignment between the international dimensions of the three core functions of higher education: education, research, and service to society
- Primarily a strategic choice and focus of institutions of higher education, and less a priority of national governments
- Less important in emerging and developing economies, and more of a particular strategic concern among developed economies.

In the past decade, however, one can observe a reaction to these trends. While mobility is still the most dominant factor in internationalization policies worldwide, there is increasing attention being paid to internationalization of the curriculum at home. There is also a stronger call for comprehensive internationalization, which addresses all aspects of education in an integrated way. Although economic rationales and rankings still drive the agenda of internationalization, there is more emphasis now being placed on other motivations for internationalization. For example, attention is being paid to integrating international dimensions into tertiary education quality assurance mechanisms, institutional policies related to student learning outcomes, and the work of national and discipline-specific accreditation agencies.

At the same time there is a move away from internationalization as a Western concept: “In the current global-knowledge society, the concept of internationalization of higher education has itself become globalized, demanding further consideration of its impact on policy and practice as more countries and types of insti-

tution around the world engage in the process. Internationalization should no longer be considered in terms of a westernized, largely Anglo-Saxon, and predominantly English-speaking paradigm” [Jones, De Wit 2014].

Recent publications, have given more attention to these emerging voices and perspectives [de Wit et al. 2017] and next generation insights [Proctor, Rumbley 2018].

In other words, internationalization in higher education has evolved over the past 30 years from a rather ad hoc, marginal and fragmented phenomenon to a more central and comprehensive component of higher education policy—although still more in rhetoric than in concrete action [de Wit, Rumbley 2017].

Leask, Jones and de Wit [2018] for that reason state that the implementation of “internationalization of the curriculum at home” appears to be struggling to move beyond good intentions and isolated examples of good practice. According to them we are still far away from any form of internationalization that is inclusive and accessible rather than elitist and exclusive, reason why they call for urgent attention to the following as a minimum:

1. We must, as scholars and practitioners, not only continue but also escalate our efforts at working together across disciplines, professional areas and national boundaries as well as within universities.
2. We must engage more with stakeholder groups beyond the academy, striving towards the common goal of creating a better, more equal and fairer world.
3. We must integrate internationalization with other agendas - disciplinary, professional, institutional, national, and regional – which are also focused on improving the quality of education and research for all students. Internationalisation of the curriculum, teaching, learning and service should not operate in a vacuum.
4. We must place emphasis on enhancing the quality of education and research for all students and staff in all parts of the world. This requires integrated policy and strategy as well as cooperation and partnership within and between institutions across the globe.

Working towards inclusive international and intercultural learning for all’, means according to them that we become more respectful of diverse contexts, agendas and perspectives on a global scale.

4.3. Leadership and Internationalization

The evolution of internationalization, in terms of both ideas and actions, went hand in hand with a rapid growth in the number of administrators and academics dedicated fulltime or part-time to the elaboration of internationalization policy and practice, in the central administrations of institutions of higher education and in their departments and faculties, in national and international agencies, in

ministries of education, and in an emerging international education industry.

Key illustrations of the profession boom related to internationalization can be seen in the development of national and regional associations for international education—such as NAFSA: Association for International Educators, the Association for International Education Administrators (AIEA), the European Association for International Education (EAIE), and others; the rapid growth in membership and conference participation of these associations; and the expanding footprints of their conference exhibit halls. This boom was first evident in Europe, North America and Australia, but then evolved to other parts of the world, as internationalization has increasingly become a global phenomenon [de Wit et al. 2017].

It also has resulted in an increase in numbers and variation in position and responsibilities of leadership positions in internationalization of higher education, what in the United States of America are called ‘Senior International Officers’, as well as in the required policy focus by institutional leaders in higher education (rectors/presidents and vice-rectors/vice-presidents) concerning internationalization. This is reflected in the number of strategic internationalization plans by institutions of higher education, as well as the attention given by national, regional and international associations of universities, such as ‘the ‘European Association of Universities’ (EUA) at the European, and the ‘International Association of Universities’ (IAU) at the international level.

As internationalization policies (at national and institutional levels) evolved over the years, and international offices grew in size and complexity, the need for more senior-level professionals with a broader knowledge of international education became more evident.

As internationalization has moved from the margins of higher education research, policy and practice, it has become clear that the previously disjointed approaches that characterized its earliest years have given way to an understanding that sophisticated synergies are required to realize its full potential. The same is true of the professional development needs of those tasked to advance the cause of internationalization in order to enhance the quality and relevance of higher education, locally and globally.

The following points emerge from this evolving concept of internationalization of higher education.

1. Increasing importance of internationalization in the higher education agenda
2. Policy and practice of internationalization is no longer marginal and ad hoc but core to the agenda of higher education leaders
3. Internationalization has become a broader agenda for all domains of higher education policy: research, teaching and learning, and relation to society

4. Internationalization no longer is the exclusive domain of the SIOs and their offices, but more and more of heads of other administrative and academic departments
5. Internationalization for higher education leaders has become more than oversight of the SIO and his/her office, and signing of MOUs
6. Budget implications are no longer marginal but both in expenses and in income substantial
7. Internationalization is for higher education leaders a key agenda issue at the sector and system level, nationally, regionally and globally [de Wit et al. 2018].

4.4. A Complex Phenomenon

As noted by Streitwieser and Ogden [2016] “international higher education is a complex phenomenon that involves many different activities, players, institutions and realities” (p. 13).

As internationalization and global engagement become entrenched around the world as mainstream components of quality in higher education, the need to ensure high quality professional preparation of those responsible for the internationalization agenda in their respective institutions or systems of higher education becomes more widespread and sustained. This is reflected well in the notion of “intelligent internationalization,” as expressed by Rumbley [2015]:

“Intelligent internationalization” demands the development of a thoughtful alliance between the research, practitioner, and policy communities. Those participating in the elaboration of internationalization activities and agendas [must] have access to the information, ideas, and professional skill-building opportunities that will enhance their ability to navigate the complex and volatile higher education environment of the next 20 years (p. 17).

In tandem, an updated definition of internationalization emerged, reflecting these broader understandings of the nature and purpose of internationalization:

“The intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, in order to enhance the quality of education and research for all students and staff and to make a meaningful contribution to society” [de Wit et al. 2015].

5. National Policies and Strategies for Internationalization³

Over the past five years, several studies by the British Council [2016; 2017], the DAAD and the British Council [2014], Helms et al. [2015],

³ This section builds on [de Wit et al. 2018].

de Wit et al. [2015], Crăciun [2018], and Perna et al. [2014] have looked into national policies and strategies for internationalization, and have generated a series of analyses, overviews, rankings, and recommendations on them. National tertiary education internationalization strategies and plans represent the most tangible and direct attempts by governments to play an active and decisive role in relation internationalization, but there are substantive differences in their approaches, rationales and priorities.

A worldwide census of explicit national policies carried out by Crăciun [2018] reveals that only 11% of countries have an official strategy for internationalization, most having been adopted in the last decade. Such strategies have been developed predominantly by developed countries – 3 in 4 national policies come from members of the Organization for Economic Co-operation and Development (OECD). European countries have taken the lead in promoting strategic thinking about internationalization at the national level – 2 in 3 national policies come from this world region [Crăciun 2018], and programs such as Erasmus+ and Horizon 2020 have led to further regional harmonization of higher education systems [British Council 2017].

This is not to say that other countries have not taken measures to promote internationalization. In fact, to support internationalization processes, many countries have taken both direct measures (e.g., re-evaluating their visa policies to give preferential treatment to international students and scholars, establishing bi-lateral or multi-lateral agreements through memoranda of understanding, and promoting transnational education through free-trade deals) and indirect measures (e.g., supporting internationalization in political discourses and giving universities autonomy to pursue internationalization activities). Nevertheless, explicit national policies ensure consistency between direct and indirect policy measures and provide a clear signaling of government commitment to internationalization.

However, it would be a misconception to assume that national policies have common rationales and approaches to internationalization. Differences exist between and among high-income, low-income, and middle-income countries with respect to their policies and practices. Also, there are differences in explicit and implicit policies and practices, with some countries having well documented plans and others have no plans but well-defined activities.

6. Implications for Institutional Strategies

The main focus in internationalization strategies and plans is still at the institutional level. Indeed, institutions operate in many cases without a national plan in place. Where national plans do exist, institutions may operate in conflict or in alignment with the national agenda. A national policy may serve as catalyst or a drag on internationalization processes, but are mostly seen as a highly positive element for the advancement of internationalization. They incentivize insti-

tutions and individuals to assist in meeting national strategic goals through internationalization. But overall, institutions are still the main agents that drive internationalization. According to most recent survey results from the 5th Global survey on Internationalization by the International Association of Universities (IAU) two thirds of university leaders around the world are considering internationalization as an important agenda issue, although Marinoni and de Wit (2019) observe that there is an increasing divide between institutions that consider internationalization as of high importance and those not. They observe that

“the reasons for such a divide between HEIs that consider internationalization extremely important and those who do not is worth a reflection and deserves to be studied more in depth, especially if one considers internationalization to be an essential part of all HEIs’ mission and a sign of quality.”

The challenges that institutions encounter in their internationalization strategy are divers. There is pressure of revenue generation, competition for talents, and branding and reputation (rankings). There is pressure to focus on international research and publication, on recruitment of international students and scholars, and on the use of English as language of research and instruction. These challenges and pressures conflict with a more inclusive and less elitist approach to internationalization, building on the needs and opportunities of own student and staff. In other words, there are tensions between a short term neoliberal approach to internationalization, focusing primarily on mobility and research, and a long term comprehensive quality approach, global learning for all.

7. Lessons and Recommendations for Russian Higher Education

The analysis above is of relevance for Russian higher education. Over the years, the focus in Russian higher education has been on inbound mobility of students and scholars. During the Soviet period, the main rationale was political, attracting students and scholars to come to study and become future ambassadors for the country. The People’s Friendship University RUDN for instance finds its basis in that policy. After the end of the Soviet Union, there was a decline in international student and scholar presence and more of an outbound mobility of

Russian students and scholars to other parts of the world, mainly North America and Europe. More recently, national policies, including the excellence program 5-100, are trying to return to a more inbound recruitment strategy of international students and scholars. Economic and political rationales as well as a strive to increase the reputation and ranking of Russian universities, are driving that agenda. Internationalization of research and publication in international peer reviewed journals are another dimension of this agenda. The use of English for

research and teaching becomes more important. Is this a realistic strategy?

The potential of Russian higher education is high. It can build on a solid foundation and reputation, certainly in the sciences and engineering. There are also challenges, such as the aging of the faculty, the lack of English proficiency among students and scholars, geographical factors, lack of innovation, strong hierarchy and bureaucracy, among others. Internationalization as a change and innovation agent requires a dynamic, young and open culture, and a long term approach. The ambitions, as in the 5-100 project, are unrealistic in their timeframe as well as in human capital capacity and bureaucracy. Internationalization needs to build on people, open culture and dynamism, and an understanding of the global, national and institutional contexts.

It is recommended to focus on a more inclusive and comprehensive approach:

- Do not let your institution's strategy be driven by rankings, but let your position in rankings be the result of your strategy
- Build your strategy on your own identity and how that is embedded in your local, national and international context
- Create a comprehensive strategy for all students and faculty, do not exclusively focus on a small elite
- Inbound Mobility is only successful if embedded in an at home strategy: language policy, international and intercultural experience of own faculty and students, an integrated international curriculum, strategic and equal partnerships.

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Transformative and Selective Systems: A Study in Comparative Sociology of Academic Markets Careers

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Abstract The article explores the relationship between academic career structure and labor market organization characterizing different national academic systems. Selective and transformative systems are described as two opposite ideal types. The principal constitutive difference between them is that the selective system requires scholars to move between organizations at least ones during their academic career, and introduces time limits for staying at the lower steps of the academic ladder, while transformative systems do not prohibit inbreeding or ban staying indefinitely at lower academic ranks. The academic systems of Great Britain, Germany, Russia, USA, and France are used to demonstrate how this fundamental difference is related to many other parameters of institutional organization of national academic worlds, such as labor market competitiveness, selection procedures complexity, whether the labor market is driven by supply or demand, the level of geographic mobility, the presence of tenure, the role of formal indicators in academic productivity assessment, and the overall status of the academic profession.

Keywords national academic system, selective academic system, transformative academic system, academic labour markets, recruitment, selection process, academic mobility, tenure, academic career, inbreeding.

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Influence of School Climate on Bullying Prevalence: Russian and International Research Experience

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Abstract. The phenomenon of school bullying is considered from the perspective of its relation to various school climate components. The main characteristics of school bullying are given,

specifically its prevalence, age, gender and socioeconomic correlates, as well as effectiveness of most common antibullying programs. Social relationships, both between students and teachers and among peers, are discussed as a significant factor of victimization. In particular, we provide data on teachers' perceptions of bullying, their preferred coping strategies, and the influence of teacher-student relationships on student involvement in bullying. The paper is designed analytically and based mostly on the findings presented in the past 10 years' Russian and foreign studies.

Keywords: bullying, victimization, teachers' perceptions of bullying, teachers' behavior strategies, effectiveness of antibullying programs.

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School Bullying: Types, Age Peculiarities, and Prevention Effectiveness

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This article aims at identifying school climate characteristics affecting the prevalence of aggressive behaviors, bullying in the first place. The U.S. Centers for Disease Control and Prevention defines bullying as any unwanted aggressive behavior that involves an observed or perceived power imbalance, is repeated multiple times, and may inflict harm or distress on the victim including physical, psychological, social, or educational harm [Gladden et al. 2014]. Bullying always occurs in a specific social context that supports and encourages behaviors of this type, thus making them more likely to be repeated in the future. Bullying might take place

in different settings and collectives; this article zeroes in on school bullying.

Three types of bullying have been traditionally identified: physical, verbal, and social. Bullying can also be direct or indirect depending on whether the victim is able to identify the bully (indirect bullying is more typical of girls, given the social taboo against female aggression [Underwood 2003]). Researchers and practitioners also recognize cyberbullying, which is when bullies use the anonymity and outreach opportunities of the Internet for harassment purposes [Bochaver, Khlomov 2014]. In a bullying situation, youths may act as victims, bullies, or bystanders; behavioral choices of the latter include bully followers (assistants), outsiders, and defenders of victims [Olweus 2013].

According to a cross-country meta-analysis of 80 studies, on average 35% of school students are involved in some form of bullying [Zych et al. 2017]. Prevalence of bullying is assessed in the PISA Well-being Report. According to the 2015 results, Russia's victimization rate is significantly higher than the OECD average: 27% of Russian school students report being bullied on a regular basis, and 9.5% are bullied or witness bullying acts frequently (as compared to the OECD averages of 18.7 and 8.9%, respectively).

Most studies find that bullying prevalence is decreasing with age [Whitney, Smith 1993; Konishi et al. 2017]. It was shown on a sample of Russian school students that 15.7% of children were victims of bullying in Grade 6, 12.3% in Grades 7–8, and 6% in Grades 9–10 [Safonova 2014]. However, another study found no significant decrease in peer victimization between Grades 6 and 9 [Alexandrov et al. 2018]. The highest rate of bullying is observed among boys and girls aged 13–14, decreasing with age for girls and remaining high for boys until the age of 16 [Vishnevskaya, Butovskaya 2010]. By far the majority of elementary school children (aged 8–10) know about the means of bullying, even though 40% hardly ever use them. At the same time, 13% of elementary school students employ bullying tactics actively [Butovskaya, Lutsenko, Tkachuk 2012].

Types of bullying differ between rural and urban schools in Russia. Verbal abuse is the most common form overall, with insults being the most popular means. However, insults are observed 1.5 times more often in urban areas than in rural ones. Physical aggression is more typical of megalopolises, just as direct bullying, whereas rural students are more likely to be involved in indirect forms of perpetration [Butovskaya, Rusakova 2016]. According to Daniil Alexandrov and his co-authors, the risk of being bullied is not affected by the type of school (secondary school, middle school, gymnasium)¹. Yet, there is

¹ Even though Prof. Alexandrov and his co-authors use the wording “experience of being bullied and cyberbullied” in their survey scale titles, we believe that it would be more proper to talk about peer aggression, since the items offered to children do not make allowance for the specific character-

a difference in how often a child will witness peer aggression towards other peers and teachers: the lowest bystanding rates are observed in middle schools, while those in secondary schools and gymnasiums are pretty much the same [Alexandrov et al. 2018].

A number of foreign researchers [Del Rey, Ortega 2008, Lister 2015] have found that social stratification factors (parental education and family income) affect adolescents' social wellbeing at school, which has been confirmed on a Russian sample. Children whose parents did not attend college are significantly more likely to be bullied physically and psychologically than children with college-educated parents. Students from well-off families report having no school bullying experience of any type in nearly half of the cases, while the proportion is 15% lower among low-income students [Sobkin, Smyslova 2012]. In Finland, however, socioeconomic status and ethnicity are not significant predictors of bullying, unlike social hierarchy and group norms in classroom and school as well as teacher-student relationships [Saarento, Salmivalli 2015].

Involvement in school bullying has immediate and long-term consequences, affecting victims, perpetrators, and bystanders [Zych et al. 2017]. Students who are bullied show less academic improvement, tend to skip school more often, and engage less in classroom activities [Buhs 2005; Nakamoto, Schwartz 2010]. Some recent studies have shown that bullying can lead to clinical depression [Ford et al. 2017] and suicidal thoughts [Lardier et al. 2016].

The Olweus Bullying Prevention Program (OBPP), the first of its kind, was put into life as part of the Bergen Project in 1982–1985. The program includes a set of strategies to be implemented at different levels: school level, classroom level, and individual level. The program is focused primarily on increasing school community awareness, ensuring strong disapproval of bullying behaviors by adults, and providing measures to support and protect victims [Olweus 2013]. The KiVa (short for *kiusaamista vastaan* which means “against bullying”; *kiva* also means “nice” or “friendly” in Finnish) is another popular antibullying project [Salmivalli et al. 2013].

The question naturally arises, to what extent bullying prevention programs are effective. A meta-analysis of studies [Farrington, Ttofi 2009] shows that victimization rates are approximately 20% lower in the countries where antibullying initiatives are used most actively (United States, Great Britain, and Scandinavia) than in the countries with no bullying prevention policies. However, a meta-analysis of publications assessing the effectiveness of twelve U.S. antibullying programs, backed by statistics on highly visible tragedies in high schools, reveals a sharp drop in efficacy of such programs in the 8th grade and

istics of bullying, namely power imbalance, repetition, hostile intent, and difficulty for the victim to defend oneself.

beyond; moreover, antibullying interventions sometimes even have a negative effect in older adolescents [Yeager et al. 2015].

Parents believe that schools are not too successful in preventing bullying behaviors. The overwhelming majority of U.S. parents experience ongoing resistance when they report bullying to school officials and have to choose between removing their youth from the school or let the victimization continue [Brown, Aalsma, Ott 2013]. In a recent survey of 160 Australian parents, 80 respondents reported that their child had been bullied at school, and 36% of them reported that the school did nothing about it [Rigby 2017].

Therefore, the bullying problem is far from being solved even in the countries with antibullying legislation (United States, Australia, Germany, and others). Traditionally, the risk factors for bullying include family characteristics, individual student characteristics, and school characteristics, such as socioeconomic background of the student body, human resources, location, and financial sustainability (a similar set of indicators makes the so-called School Social Wellbeing Index [Pinskaya, Kosaretskiy, Froumin 2011]).

This study seeks to identify the key characteristics of school climate — first of all, teacher-student relationships, teachers' perceptions of bullying, and their most effective response strategies — that may act as risk or protective factors of bullying victimization. Analysis involves the results of Russian and foreign studies mostly produced in the past decade; the criteria for selecting empirical articles included sample size, sample representativeness, and the use of quantitative data analysis methods.

**School
Climate as
a Factor of
Bullying**

Most researchers identify the following components of school climate: (i) peer relationships, (ii) physical environment (school and classroom design characteristics), (iii) student-specific factors (sense of belonging, discipline), and (iv) organizational culture (expectations, rules, and norms) [Chirkina, Khavenson 2017]. The existing “concept of school climate lies at the intersection of school structure and school culture.” [Fedunina 2014, p.:117]

School climate became an independent subject of research in the second half of the 20th century. Between the mid-1960s and the 1990s, it was mostly explored in the context of studying the factors of academic achievement. In recent decades, researchers have come to examine school climate at the level of teacher-student interactions, in terms of its influence on student motivation, socialization, behavior, and prevalence of school violence. Building a safe learning environment has been recognized as part of the school's fundamental mission [Fedunina, Sugizaki 2012], with more and more researchers treating school climate as a construct that allows predicting bullying prevalence and at the same time provides leverage to prevent it.

The school climate components related directly or indirectly to bullying prevalence include school safety (norms and rules, physical and perceived safety), school connectedness and the sense of belonging (in students as well as in parents), and social relationships (between teachers and students, and among peers). For instance, clear and unambiguous rules, perceived by students as “fair” and “unbreakable”, have been found to positively reduce bullying [Ma 2002; Aldridge, McChesney, Afari 2018]. It is critical that violation of rules, which includes bullying and other aggressive behaviors, should entail certain consequences for any student or teacher, and that students should be engaged in the development of school rules and regulations [Guerra, Williams, Sadek 2011]. A recent study by a Swedish research team shows that schools differ strongly by the proportion of students who are aware of the rules at school (from 52 to 100% across the sample) as well by perceived student involvement in decision making (from 0 to 92.5% across the sample) [Laftman, Östberg, Modin 2017].

Relationships with teachers are a crucial factor of bullying prevalence [Mucherah et al. 2018; Alexandrov et al. 2018]. Students must be assured that they can easily seek help from adults in a conflict situation [Eliot et al. 2010]. In schools where teachers and other students tend to intervene against bullying, fewer students report having been bullied [Laftman, Östberg, Modin 2017]. However, victims do not always ask for help. Duration and frequency of victimization do not predict help seeking from the teacher [Hunter, Boyle 2004], and the proportion of children who are bullied for a long period of time but do not tell anyone is significantly higher than the proportion of those who report bullying and break the vicious circle. Richard S. Newman’s theory of adaptive and non-adaptive help seeking [Newman 2008] states that victims of bullying decide whether or not to seek help from the teacher by assessing possible negative outcomes of such help seeking. So, what are the negative expectations that make adolescents refuse from asking for help even if they know that the teacher will definitely stop the bullying? In a study on British school students, Michael J. Boulton and his colleagues identified three most common perceived barriers preventing students from disclosing bullying to teachers even if they knew that it could help: peer disapproval (75.5%), feeling weak/undermined in case of disclosure (64.2%), and desire for autonomy, i.e. desire to solve the problem by themselves (58.8%) [Boulton et al. 2017]. The rates of help seeking for bullying are lower in high school (8th-11th grades) than in middle school, in boys than in girls, and in persistently bullied students than in first-time victims. Therefore, even the conviction that teacher’s help could be effective is often not enough for bullied children to seek help, as help seeking is associated with losing social status (however low it already may be) and self-respect.

A series of interviews with bullied youth conducted by Swedish researchers shows that deciding whether or not to continue dis-

closing victimization is even harder for bullied children than deciding whether or not to actually tell adults about bullying [Bjereld, Daneback, Petzold 2017]. Continuing to disclose victimization was closely associated with adults' reactions after finding out about the bullying. Victims who felt they had not been listened to or taken seriously did not continue to disclose bullying. This is probably why children who have poor quality relationships with teachers and parents are more likely to be victimized [Ibid.]. Of nearly 7,000 11-, 13-, and 15-year-old Swedish school students included in the study, 5.5% reported frequent victimization. Frequent victims were significantly more likely to report not feeling confidence in teachers, finding it difficult to talk to their parents, and experiencing that their family did not listen to what they had to say.

Teacher-child relationships are an independent factor affecting children's levels of victimization regardless of their friendships [Serdiouk, Berry, Gest 2016]. However many or few friends a child might have, positive and supportive relationships with a teacher are a significant predictor of lower levels of victimization. In a longitudinal study, 1st-, 3rd-, and 5th-grade students were followed across the school year. Children with a greater number of friends tended to be victimized less in the 3rd and 5th grades, but not in the 1st grade—which indicates that perceived importance of peer opinions grows with age. The importance of positive teacher-child relationships did not vary over time. Similar results were obtained in another study, where peer support was found to be a significant predictor of lower bullying rates in high-risk secondary students (Grades 7–12), and adult support in school was associated with lower bullying prevalence in high-risk elementary students (Grades 3–5) [Gage, Prykanowsky, Larson 2014].

Bullying is always closely related to social context and never occurs outside of it. This has led to the hypothesis that influence of student-teacher relationships on bullying-related behaviors differs as a function of students' social statuses [Longobardi et al. 2018]. Using sociometric data, the researchers divided 435 middle school students (Grades 6–8) into four groups: popular, rejected, neglected, and controversial. It was found that bullying was most often initiated by rejected students who had conflictual relationships with teachers. The same relation, yet much weaker, was observed for popular and controversial students. In neglected students, close student-teacher relationships were positively associated with pro-bully behaviors. It can be assumed that rejected students perceive active behaviors such as having conflicts with teachers and peers as a means to gain social status; they do not fear conflicts as they have little to lose. As for neglected students, they have no conflictual relations with peers. Even though they feel that they are not preferred by other students, they also feel that their position in the social hierarchy does not give them the necessary power to become bullies. On the other hand,

neglected students who have established close relationships with teachers try to act as pro-bullies whenever possible, as a means to become less neglected as they take part in activities together with their peers and may gain support from other students over time.

Teachers' Perceptions of School Bullying and Preferred Coping Strategies

Teachers' understanding of bullying determines how they respond to problematic situations [Swearer, Hymel 2015]. How teachers understand and respond to incidents is influenced by whether they view an incident as serious or consider the victimized child responsible, whether the child matches their assumptions about victim characteristics and behaviors, and whether they feel empathy for the child [Mishna et al. 2005]. Teachers' implicit perceptions of bullying are related to student gender and age and affect their choice of coping strategy [Kochenderfer-Ladd, Pelletier 2008]. Bullying among boys is more likely to be treated as an inevitable evil, i. e. to be perceived as normative behavior. The reason for this must be the tendency of boys to exhibit aggressive behavior more often than girls, which is always manifest. Teachers tend to intervene less often in bullying incidents involving boys, as boys are expected to be able to stand up for themselves. Teachers rarely give advice like "Take the bullies down a peg" to boys, probably trying to avoid causing even more aggression. This assumption has been proved empirically: classes where teachers urge children to "whack the bully back" show increased victimization levels in boys and highly aggressive girls [Troop-Gordon, Ladd 2015]. Meanwhile, victimization is lower for boys in classes where teachers simply encourage students to be able to stand up for themselves. In this case, boys probably start trying to defend themselves in non-aggressive ways.

Most Kenyan high school students report that teachers stop peer perpetration when they see it; the percentages were 85% in all-girls schools and 95% in all-boys schools² [Mucherah et al. 2018]. The authors did not find any difference in the prevalence of bullying as a function of student gender or age, but they found a relation between bullying and the type of school. The odds of becoming a perpetrator or a victim was found significantly higher in all-girls schools than in all-boys schools. This study does not provide sufficient information to judge whether bullying rates among boys are lower because teachers in all-boys schools intervene in bullying incidents more often, or recognize them better, or address them proactively, falling under the stereotype about boys being more aggressive than girls.

Russian teachers have rather accurate perceptions of bullying types and manifestations, which are in line with the existing scientific findings [Bochaver, Zhilinskaya, Khlomov 2015]. As teachers de-

² In Kenya's education system, the most prestigious national high schools are predominantly single sex boarding schools.

scribe bullying incidents, they mention both direct (verbal abuse, physical aggression, mockery, humiliation) and indirect (rejection, neglect) forms of bullying. When explaining the phenomenon of bullying, teachers largely maintain that bullying occurs along one of the two major patterns, “xenophobia (peers)—otherness (victim)” or “need for power and authority (perpetrator)—fear of neglect (onlookers)”. The respondents were well-informed of the broad array of possible negative outcomes of bullying “affecting not only the victim and the perpetrator but also the bystanders and the teachers, which indicates that they are probably motivated to prevent bullying.” [Ibid.:113] When teachers describe their bullying responses, the tremendous gap between what they know and how they behave becomes obvious. Theoretical knowledge almost never translates into daily practices, and most of the time teachers respond to bullying spontaneously, relying on their previous experience and intuition.

Three major teacher strategies to deal with bullying were identified based on a large survey of U.S. school teachers and their students [Troop-Gordon, Ladd 2015]. Teachers convinced that victims should be able to stand up to aggressors often give advice of this kind to their bullied students. They also contact parents a lot, probably to encourage them to help their children learn to defend themselves against bullies. Perceiving the teacher as actively contacting parents may be linked to higher victimization levels among boys, but not among girls. In high school, parental assistance is perceived by bullies as indication that the victim is weak and helpless on his/her own. Teachers who regard bullying as normative behavior are less likely to intervene when they see or learn about an incident; they never help the victim unless they feel personal sympathy for the child. The third category includes teachers who believe that the best way to safeguard victimized children is to enable them to avoid aggressive peers. Such teachers help victims find ways to walk away from perpetrators and try to separate aggressors and victims in the classroom to reduce interactions between them. They also help victimized children find other peers to play and communicate with. This strategy is vitally important and deeply justified psychologically. The need for affiliation and belonging is a fundamental human need. With bullying, it is not enough to isolate the victim from the bully or group of bullies; the victimized child should be included in a group that will make them feel safe and connected. Isolation alone, without inclusion, will only trigger chronic stress in the victim.

German scholars asked 625 teachers, of whom about 75% were women, to assess a hypothetical bullying episode in terms of which intervention strategy they would prefer [Burger et al. 2015]. The options included working with victims, working with bullies, involving other adults, ignoring the incident, and authority-based interventions. The great majority of the teachers (82%) preferred punitive authority-based interventions. The second most popular strategy was work-

ing with bullies, followed by involvement of other adults. Working with victims was the second least popular option, and none of the respondents was willing to ignore the incident. Similar structures of teachers' antibullying strategies, with authority-based interventions and punitive measures prevailing, have also been observed in Great Britain, Finland, and the United States. The danger of this approach is that teachers do not attempt to teach bullies feel empathy for victims, or understand the harm they have caused and the victim's feelings. Punitive measures usually have short-term outcomes, so aggressors try to switch to covert forms of bullying that are less identifiable.

A number of foreign studies have proved harsh discipline and punitive interventions in bullying to be ineffective. A team of Philippine researchers conducted a survey of high school students (M age = 14.3 years, N = 401) to examine how the experience of harsh teacher discipline, verbal (being rude) and physical (slapping, etc.), is related to students' experience of bullying victimization and perceived teacher support [Banzon-Librojo, Garabiles, Alampay 2017]. The findings were described using a structural model which shows that experiences of harsh teacher discipline predicted higher bullying victimization and students' negative perception of teacher support. Unlike in studies based on European samples, negative perception of teacher support is not related to bullying prevalence in the Philippine sample. This could possibly be explained by the Philippine school culture, which regards teacher as a distant and rather authoritarian figure who is not wired to support students or care about their psychological wellbeing.

Harsh disciplines (whether verbal pressure and rudeness or physical abuse, such as hitting with a ruler on the knuckles) legitimize violence towards others, making students replicate violent behaviors in interpersonal communication; this is a cross-cultural pattern, by and large. Estonian scholars have found empirical evidence for the impact of teachers' controlling behavior on students' feelings and bullying behavior (M age = 12.9 years, N = 600) [Hein, Koka, Hagger 2015]. In their study, school children were asked to assess the behavior of their physical education teachers. The structural equation model created by the authors discriminates among four teachers' controlling strategies: controlling use of praise and extrinsic rewards, negative conditional regard (e. g. "you have really let me down"), intimidation, and excessive controlling behavior (interference in aspects of students' lives that are not directly associated with their schooling). Two of these controlling strategies—negative conditional regard and intimidation—were found to predict students' perceived thwarting of basic psychological needs (for autonomy, competence, and relatedness—according to Deci and Ryan's self-determination theory that the authors drew upon), which made them feel anger and turn to aggressive behavior. In other words, if the student's sense of autonomy has been diminished as a result of teachers' controlling behavior, it may lead to the use of direct and hostile strategies to control his or her peers; if the

student's need for competence is thwarted, he or she may have a desire to demonstrate physical superiority; finally, if a student feels isolated from others, he or she may turn to aggressive behavior.

Conclusion Publications on school bullying keep rising in number, originating from nearly all over the world. The reasons for this include high prevalence of this destructive behavior in children and adolescents as well as the harmful consequences of bullying on their psychological, physical, and social wellbeing.

Bullying only occurs in specific social contexts where students experience strong negative feelings (anger, fear, frustration), which they fuel into aggression towards weaker peers to maintain or increase their status in a group.

School climate—or, rather, its components such as feeling safe at school, the sense of belonging in school, and, most of all, social interactions (teacher-student and peer relationships)—is a significant factor predicting bullying behavior.

The overview of studies allows us to identify which school climate characteristics can be the factors that reduce the prevalence of bullying. These include, first of all, positive teacher-student relationships, which play a significant role in any grade, as compared to peer friendships which only come to the fore as a factor of bullying prevention in middle and high school. Conflictual relationships with teachers are associated with higher risk of victimization, especially for students who do not enjoy popularity among their peers.

Perceived teacher support and inescapable and equal consequences for anyone involved in inappropriate behavior (no teachers' "pets") are very strong predictors of bullying prevention.

Authority-based interventions and punitive responses are teachers' most preferred coping strategies today. Available research findings demonstrate ineffectiveness of such measures against bullying, as they only legitimize social violence and make perpetrators turn to less identifiable and more sophisticated ways of bullying. Strategies that suggest involvement of other adults including parents and individual work with bullies and victims have been found to be the most efficient ones. Bullies should be taught to understand how harmful their behavior is, what the victim feels, and how they can fix it. Victimized children, in their turn, should be given help in finding a safe environment and a friendly social circle.

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Engineering and Economics Graduates: Between Supply and Demand

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Abstract. Microdata from the National Employment Survey of 2010–2015 Vocational and University Graduates conducted by the Russian Federal State Statistics Service (Rosstat) in April–September 2016 is used to analyze the study-to-work transition of graduates in engineering and economics. Transition success is measured as indicator the ratio of demand and supply of graduates' labor. Research methods include descriptive and regression analysis.

Statistical analysis of macro data shows that the number of skilled engineers who obtained degrees in 1990–2000 exceeded the number of engineers

exiting the labor force upon reaching the age of retirement during that period. While aggregate supply of engineering workforce was growing during the post-reform era, demand for their labor was shrinking—mostly due to a considerable decline in engineering jobs.

It has been established that chances of getting a job, average time that it takes to find one, and the degree of first-job educational and skill match are pretty much the same for young qualified engineers and economists. No statistically significant difference has been observed between their starting salaries, either. Therefore, no evidence has been found to support the hypothesis about a high unmet demand for qualified engineers and oversupply of workforce in economics and management. The study demonstrates that the reported shortage of engineers has nothing to do with low aggregate supply in the industry.

Research findings could be used in the design of academic programs for higher education at national and regional scales.

Keywords: graduate labor market, study-to-work transition, demand and supply of labor, engineering shortage, oversupply of economists.

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Graduate employability has recently come under public scrutiny. Politicians, civil servants, employers, and experts often draw attention to the gap between university graduates' qualifications and the labor

market demands. In particular, there is a prevailing opinion that demand for engineering workforce is largely unmet in the Russian economy, yet universities keep producing economists, managers, lawyers, and other “popular” occupations despite the obvious surplus of relevant occupations¹.

This standpoint is normally supported by higher education statistics. Indeed, total university enrollment was 4,399,500 as the academic year 2016/17 began, which is 1.6 higher than in the academic year 1991/92 (2,762,800)². While growing in volumes, student flows underwent a considerable redistribution among majors and fields of study. The post-reform years witnessed a steady increase in the proportion of graduates in economics, law, social sciences, and humanities at the expense of qualified professionals in technology, pedagogy, and medicine [Varshavskaya 2016]. Only one in five graduates (21.1%) in the 1991–1995 cohort had a degree in economics, but their proportion amounted to one third (34.3%) in 2011–2015. To compare, the share of engineering graduates was 28.0% in 1991–1995 and only 22.0% two decades later³.

There is one critical point that should be emphasized here. The estimates above and the resulting implications on the labor market imbalance are almost entirely supply-centered. “An asymmetrical approach like that lacks analytical integrity and can hardly be called unbiased. Chances are that implications for economic and education policies drawn on its basis will in many cases be counterproductive.” [Kapelyushnikov 2012:52] Obviously enough, labor demand should also be considered to make any well-supported statements about occupational labor shortages or surpluses. However, while the volume and structure of labor supply are quite easy to identify, evaluation of labor demand is a much more challenging task that often requires more data than available. As a consequence, the supply-demand ratio is analyzed either at the macro-level [Korovkin 2011] or at the level of larger occupational categories [Kapelyushnikov 2012; Smirnov,

¹ Debate over the shortage of engineering workers is not exclusive to Russia. In the United States and Great Britain, STEM (Science, Technology, Engineering, and Mathematics) workforce shortages were first reported in the early 1950s, and the viewpoint has been quite popular among politicians and employers ever since. Meanwhile, a number of independent studies have found STEM worker shortages in those countries to be exaggerated, at the very least, or even absent [Lowell, Salzman 2007; Metcalf 2010; Salzman 2013; Smith, Gorard 2011; Teitelbaum 2014; Xue, Larson 2015].

² The highest total university enrollment (7,513,100 students) was observed at the start of the academic year 2008/09.

³ The changes described here are part of more long-term trends. The percentage of degreed economists and managers in Russia has been growing consistently since the early 1970s. The proportion of engineering graduates was reducing most rapidly in the 1970s-1990s, reaching a plateau in the early 2000s [Varshavskaya 2016].

Kapustin 2018]. Very few studies have approached the issue in the context of different occupations and fields of study [Gimpelson et al. 2009; Stuken 2018]. Vladimir Gimpelson and his co-authors analyzed the match between educational qualifications and current employment [Gimpelson et al. 2009]. Another example is Tatyana Stuken, who examined the quality of graduate employment in Siberian Federal District using employability indicators based on the educational and occupational levels attained [Stuken 2018]. Both studies find no evidence to support the hypothesis about unmet demand for skilled engineers and labor surplus in economics and management.

Our goal is to analyze the study-to-work transition of graduates in engineering and economics and use effectiveness of such transition to estimate the supply-demand ratio. We assume that occupational imbalance should be reflected in the way that graduates enter the labor market, expecting that shortage of skilled workers (engineers in this case) will make the transition easier, and surplus (of economists) more difficult.

The article is structured as follows. In Section 1, we explore the methodological ways of evaluating occupational shortages or surpluses, which are then used to articulate our research approach and hypotheses in Section 2. Data and research methods are described in Section 3. Sections 4 and 5 present the results of data analysis and hypothesis testing. Finally, the conclusion part presents research findings.

1. Methodology of Evaluating Occupational Shortages and Surpluses

There are two most popular methodological approaches to identifying skills and occupational shortages. The so-called *social demand model* determines that there is a shortage of members of a particular profession if the actual number is less than the number dictated by some social, political, ideological, or any other non-economic criterion or goal [Blank, Stigler 1957]. For example, one might use the criterion that the country has not enough engineers to ensure national security, achieve leadership in innovative research, catch up with other countries, etc. This approach has largely dominated the US and British discourse on STEM worker shortage for as long as 70 years (since the mid-20th century) [Smith 2017; Stevenson 2014].

The other approach, which is based on the labor supply and demand theory and could be described as economic, determines shortage as a situation where the quantity of the labor services in question that is demanded is greater than the quantity supplied at the prevailing wage. This definition, introduced in the classical paper by David M. Blank and George J. Stigler [Blank, Stigler 1957], regards relative wage rises as the criterion of shortage. Developing Blank and Stigler's ideas, Kenneth J. Arrow and William M. Capron proposed a model of dynamic shortages, which accounts for the rate of changes in demand in addition to wage response [Arrow, Capron 1959]. A dynamic short-

age results from rapid and consistent growth in demand for specific skills or occupations, low labor supply elasticity, the long time it takes for the market to adjust prices, and the specific features of some socioeconomic institutions (e. g. vocational training and development). The economic approach suggests that workforce shortage can only be observed in situations where labor demand cannot be met with the available supply at the existing market wage [Cedefop 2015; McGuinness, Pouliakas, Redmond 2018; Shah, Burke 2005; Veneri 1999]. "In a number of cases, the so-called shortage is not actually a shortage, since it arises because the employer cannot pay the prevailing wage for a certain skill." [Meager 1986:240]

Supply-demand ratio is estimated using various indicators, which can be grouped into two categories. The first one embraces economic indicators reflecting the current labor market situation (usually across specific skills or occupations). The most widely used ones include employment and unemployment rates, their dynamics, changes in relative wages, job vacancy statistics and how it correlates with unemployment [Barnow, Trutko, Piatak 2013; Cohen, Zaidi 2002; Shah, Burke 2005; Veneri 1999]. In certain cases, assessment may involve data on average hours worked, labor market entry and exit, immigrant population, employee training and conversion expenses, etc. [MAC2008; Shah, Burke 2005]. The use of those indicators allows assessing the supply-demand ratio at the macro level. The second group of indicators is represented by data from employer surveys on skill and occupational shortages, vacancies and vacancy filling rates, and issues associated with recruiting workers of specific skills. These indicators reflect the labor market situation at the micro-level, providing access to information on hard-to-fill vacancies. Importantly, such indicators do not always match the results of supply-demand ratio macro-assessment [Gimpelson 2004; 2010; Cedefop 2015; Green, Machin, Wilkinson 1998]. Researchers believe that shortage estimates based on employer reports are often overstated, which should be considered when developing recommendations [Downs 2009; Meager 1986; Shah, Burke 2005; Smith 2017]. The most widespread methods of occupational shortage/surplus assessment use a set of indicators reflecting the labor market situation and complement those with employer survey findings (e. g. [MAC2008; Veneri 1999]).

2. Research Approach

Occupational supply-demand imbalances affect how different occupations are positioned in the labor market, in particular the entry conditions for graduates. Indeed, if there is an excess supply of, say, economists, graduates with economic degrees will face limited employment opportunities, consequently spend more time to find their first job and have lower chances of being employed. Being up against tough competition in the occupational labor market, graduates qualified in "wrong" (surplus) occupations will have to accept lower-skilled

and/or mismatching jobs. Research has proved that graduates in an imbalanced labor market are more likely to be overqualified for their jobs [Croce, Ghignoni 2012; McGuinness, Pouliakas 2016; Verhaest, van der Velden 2013; Verhaest, Sellami, van der Velden 2017; Wieling, Borghans 2001]. Job mismatch also becomes more likely to occur under such conditions [Frenette 2004; Ghignoni, Verashchagina 2014; Robert 2014; Wieling, Borghans 2001; Wolbers 2003]. Therefore, a shortage of engineers and an excess supply of economists should translate to higher effectiveness of study-to-work transition for engineering graduates as compared to those with economics degrees.

We assessed labor market entry conditions using entry-level job characteristics, namely first-job salary, qualifications-job (vertical) mismatch, and major-job (horizontal) mismatch⁴. In addition, we measured average job search time after graduation and the probability of being employed.

The following hypotheses were proposed based on earlier findings.

Hypothesis 1. Average job search time is shorter for engineering graduates than for economics graduates.

Hypothesis 2. Employment is higher among engineers than among economists.

Hypothesis 3. Engineering graduates are more likely to fill top management positions and highly skilled jobs than economics graduates.

Hypothesis 4. Engineering graduates are less likely to be mismatched to their jobs than economics graduates.

Hypothesis 5. Recent engineering graduates are paid higher than recent graduates in economics.

If evidence is found to support these hypotheses, it will mean that Russia's labor market is experiencing a shortage of engineers and an excess of economists; otherwise, we will find evidence to reject this assumption.

3. Data and Method

Data from the Federal Employment Survey of Vocational and University Graduates was used as empirical framework for this study. This sampling survey was conducted by the Russian Federal State Statistics Service (Rosstat) in April–September 2016 as a supplementary module for monthly workforce statistics. The survey covered around 36,000 vocational and university graduates produced in 2010–2015⁵. For the purpose of this study, we selected data on the respondents with degrees in economics and engineering. Target groups were

⁴ We prefer analyzing graduates' first jobs instead of their current employment because first jobs are the ones that truly reflect the labor market entry conditions.

⁵ For more information on the survey, visit http://www.gks.ru/free_doc/new_site/population/trud/itog_trudoustr/index.html

shaped using the Russian National Classifier of Academic Subjects OK 009–2003⁶. Economics graduates included holders of degrees in Economics and Management, and engineering graduates were those with degrees in Engineering and Technology⁷. There were 7,040 economists (accounting for 34.3% of all university-educated respondents) and 4,489 engineers (21.8%).

Variables reflecting differences in graduate employability (y_i) include:

- (1) First-job salary (logarithm);
- (2) Qualifications-job match (binary variable: '1' for top management positions and highly skilled jobs, '0' for all the other cases);
- (3) First-job educational match (binary variable: '1' for being matched to one's job, '0' for being mismatched);
- (4) Probability of being employed at the moment of the survey—for graduates produced more than a year ago;
- (5) Average job search time after graduation.

We applied a log-linear model (extended Mincer equation) to wages, Cox regression to average job search time, and linear probability model to the other dependent variables. The latter choice is explained by the need to compare assessments by a number of specifications. Coefficients in a linear probability model are represented by estimated marginal effects on the probability, which facilitates analysis and comparison considerably. Besides, the quality of probability models is sensitive to the normality assumption of regression errors—a rather rigorous requirement that very few real-world models comply with [Ai, Norton 2003].

The following variables were used as independent:

- (1) Personal characteristics: gender, age, marital status (Z_2);
- (2) Human capital characteristics: years of work experience, mode of study (full-time/part-time/extramural), type of funding (government-/self-funded), region of study (region of residence / other region / abroad)⁸ (Z_3);
- (3) First-job characteristics: sector (formal/informal), industry, job-education match (Z_4);
- (4) Local labor market characteristics: type of locality (urban/rural), region of residence, industrial structure of the region (shares of

⁶ This version of the Classifier was in force at the moment of the survey, so we used it instead of the more recent one (OK 009–2016).

⁷ Engineering-related majors are described in much more detail than majors within economics in both versions of the Classifier.

⁸ Preliminary data analysis also took account of the form of university ownership (private/public), but the variable was later omitted from the model to avoid multicollinearity.

mining, process manufacturing, power production, and housing in the GRP above the median value and the third quartile) (Z_5).

Every indicator of study-to-work transition effectiveness was assessed using five sets of regressors. The first specification only included one binary variable (*Ingener*: '1' for Engineering and Technology, '0' for Economics and Management) to discriminate between engineers and economists, and fixed regional effects. Next, four sets of explanatory variables described above were added consecutively, both alone and multiplied by the binary "engineer/economist" variable. As a result, differences in labor market entry patterns between economists and engineers were identified by the binary variable as well as by the inhomogeneity of personal, human capital, first-job, and local labor market characteristics. Models were estimated on different subsamples. The basic subsample included respondents who had searched for a job after graduation, as those graduates had actually been entering the labor market.

The model can thus be represented as follows:

$$y_i = \beta_0 + \beta_1 Ingener_i + Ingener_i \sum_j \beta_{2j} Z_{j2} + \dots + Ingener_i \sum_j \beta_{5j} Z_{j5} + Territ_i + \varepsilon_i,$$

where sets of regression coefficients b are determined by selecting one of the specifications mentioned above with a corresponding set of variables Z_j , and dependent variable y_i is one of the indicators of successful employment. Region-specific fixed effects are included in every specification.

4. Engineering and Economics Graduates in the Labor Market

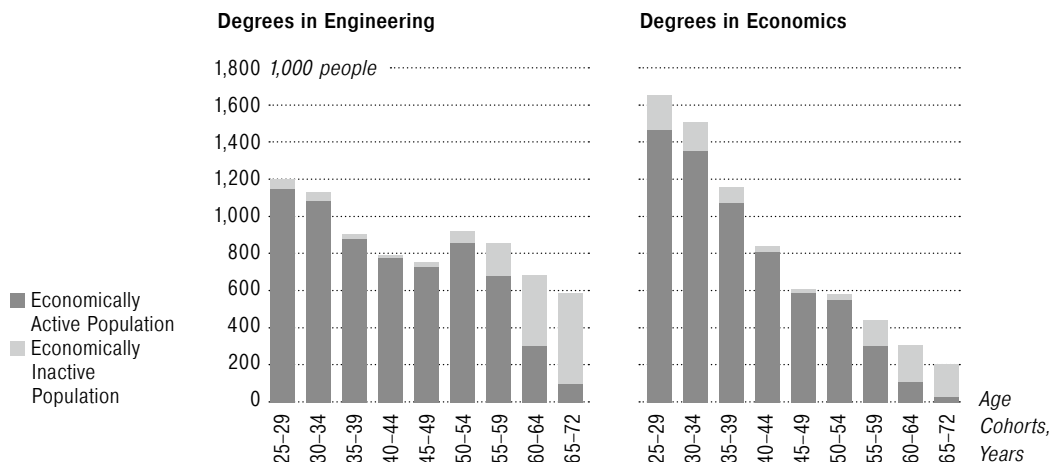
4.1. Macroeconomic Context

Our first step will be to discuss the general trends in supply and demand of engineers and economists.

A survey of workforce demonstrates that holders of degrees in engineering and technology are more numerous in younger age cohorts (Fig. 1). For example, there are 1.5 times more engineers among workers aged 25–34 than among those aged 55–64, who are exiting the labor market. The gap increases to 2.2 times when only economically active population is concerned, which shapes aggregate labor supply. This data provides no reason to argue that universities have been producing fewer qualified engineers lately, thus creating a shortage of engineering workforce. Population with degrees in economics has also been growing, its proportion being four times higher among 25–34-year-olds than among those aged 55–64. For economically active population, the gap reaches 6.5 times.

Labor demand is assessed using statistics on employment by industry, salaries, and job vacancy rates. Obviously, demand for engineering talent is largely formed by the secondary sector, first of all the manufacturing, construction, transport, and communications indus-

Figure 1. **Population with Degrees in Engineering and Economics by Age Cohorts, 2016 (1,000 people)**



tries—they are estimated to account for about two thirds of all jobs that require engineering skills. Demand for economists and managers is more diversified, being generated not only by enterprises but also by businesses, business and social services companies, and public administration organizations. Three quarters of jobs that require higher education in economics are concentrated in the service sector. Although amendments to the industrial classifiers make dynamics assessment difficult, the major trends are obvious. The number of workers employed in the secondary sector, including skilled jobs, was consistently decreasing during the post-reform period, while employment in the service sector was growing, especially in business, finance, and public administration. The total number of workers employed in the secondary sector decreased by nearly 10 million during the 1990s-2010s. Within the same period, employment increased by over 8 million in the sales and food service industries, by 2 million in public administration, and by 900,000 in finance. In addition, small business development also contributed to the growing demand for economists. It is thus not unreasonable to assume that aggregate demand for engineers was decreasing in the post-reform years, in contrast with aggregate demand for economists and managers which was increasing.

Supply and demand factors include changes in relative wages. According to Rosstat statistics, the rise in wages in 2005–2015 was on average 2–3% higher for engineers than for holders of degrees in economics, which was probably a “compensation” for the accelerated increase in economist remunerations of the 1990s. Such wage dy-

Table 1. Sociodemographic Characteristics of Economics and Engineering Graduates (%)

	Economics and Management	Engineering and Technology
Gender		
Male	23,3	74,2
Female	76,7	25,8
Marital status		
Married	52,8	45,9
Single	47,2	54,1
Mode of study		
Full-time	55,8	69,9
Part-time	10,3	8,5
Extramural	33,8	21,5
Type of funding		
Government-funded	29,6	54,1
Self-funded	70,4	45,9
Combining work and study		
Constantly	37,9	30,1
From time to time	13,9	18,2
Never	48,2	51,7

Note. Hereinafter, indicators are shown in bold, the difference between which is significant at the 95% confidence level.

namics provides no basis for reporting a significant unmet demand for engineers. The same is indicated by job vacancy statistics. According to Rosstat figures, the job vacancy rates in 2008–2016 were 2.2–3.0% for most engineering occupations and 1.5–2.2% for economics-related ones.

Therefore, the intermediate conclusion based on statistical data analysis is that workforce supply was growing in both engineering and economics during the 1990s–2010s, being more intensive in the latter field. However, aggregate demand for engineers was not increasing, to say the least, or probably was even shrinking, while aggregate demand for economists was growing, perhaps slightly falling behind workforce supply in the industry. That is the macroeconomic context in which graduate survey data will further be analyzed.

4.2. Graduate Characteristics⁹

Males account for only one quarter of economics graduates and females for only one quarter of engineering graduates (Table 1). Such gender imbalance reflects the existing attitudes about male- and female-dominated jobs. The respondents are on average 28.2 years old, and nearly half of them are married.

Engineering graduates were more likely than economists to have obtained their higher education degrees as government-sponsored full-time students. Regardless of the mode of study, economists had to pay for education more often than engineers. Over half (54.7%) of the full-time economics graduates had been self-funded students, as compared to only one third (32.9%) of the engineering graduates. Among the extramural graduates, 91.8% of the economists and 78.0% of the engineers had had their studies financed by the government.

Combining work and study is typical of both occupations, every other graduate having done it constantly or from time to time. Half of the economists and nearly 58% of the engineers who combined work and study had part-time jobs related to their major.

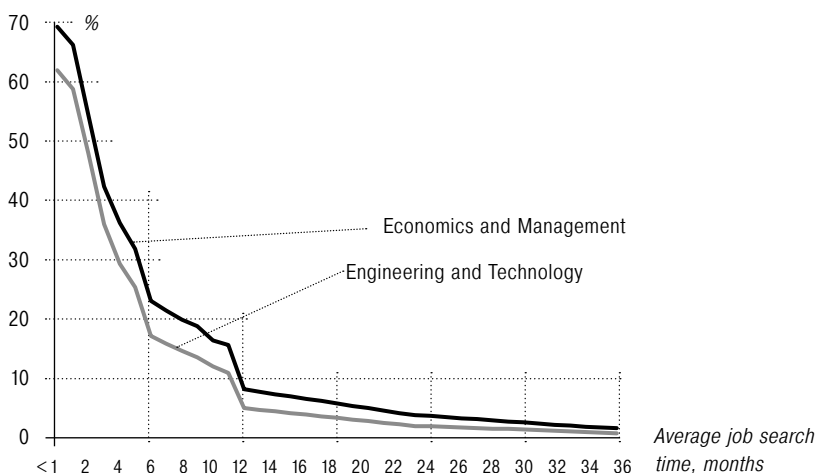
4.3. Labor Market Entry

Two thirds of the graduates searched for a job after graduation. The proportions of jobseekers are equal among economists and engineers (62.6% and 63.8%, respectively). Former full-time students were much more likely to search for a job (83.2% of the economists and 78.1% of the engineers) than their extramural counterparts (34.8% and 28.7%, respectively). The reasons for not seeking a job are the same for both occupations, yet there is a great difference between the modes of study. Nearly the only reason why extramural graduates did not search for a job was because they stayed with same employer they had been working for during their studies. This option was selected by 82.2% of the economists and 81.5% of the engineers. Former full-time students had a more varied list of reasons, though keeping the “old” job was the top choice here, too (24.5% and 26.8%, respectively). Among economics graduates from full-time programs, 22.6% referred to family reasons, 9.5% to having received a job offer, and 8.5% to having had no need to work. The reasons specified by former full-time students in engineering included being called up for military service (13.4%), receiving a job offer (12.9%), and being assigned to a job by distribution (12.5%). A closer analysis showed that differences in the reasons for not seeking a job among full-time graduates are mostly explained by the gender profiles of the two occupations.

Median length of job search was three months for economics graduates and two for degreed engineers; 30.8% of the former and 38.1% of the latter found their first jobs within one month after graduation. In general, engineering graduates tend to get employed soon-

⁹ In this section, data is given on all 2010–2015 graduates in relevant occupations.

Figure 2. Percentage of Respondents Who Did Not Land a Job after Graduation



er than holders of degrees in economics (Fig. 2). No essential gender gaps have been observed.

The overwhelming majority of graduates—90.0% of the economists and 93.0% of the engineers—got employed after graduation. Employment rates are very close for women (89.5% in economics and 88.7% in engineering) and slightly differing for men (91.5% and 94.5%, respectively).

Lack of experience was reported by three quarters of the economists and two thirds of the engineers as number one problem that graduates faced when seeking a job, followed by low salaries, unavailability of suitable jobs, and impossibility to find an education-matching career (Table 2). No critical differences were found between the two occupations. Unavailability of suitable jobs was reported somewhat more often by engineers. The problem of finding an education-matching career was experienced more often by the gender groups under-represented in a given occupation, i. e. male economists and female engineers.

No difficulties getting the first employment were experienced by 16.5% of engineering graduates and 12.5% of economics degree holders. This is true to the same extent for men and women within each of the two occupations (16.9% of male engineers and 15.3% of female engineers; 12.2% of male economists and 12.6% of female economists). Yet, full-time graduates reported having no such difficulties three times more often than their extramural counterparts, namely 17.0% vs. 6.2% in economics and 20.6 vs. 6.4% in engineering.

Table 2. **Challenges Faced by Graduate Jobseekers (%)**

	Economics and Management			Engineering and Technology		
	Total	Males	Females	Total	Males	Females
Lack of experience	74.6	70.4	76.0	67.2	64.7	74.0
Low salaries offered	41.2	42.0	40.9	41.7	43.7	36.4
No suitable jobs available	30.7	32.1	30.2	35.4	36.0	33.9
Impossible to find an education-matching career	20.9	24.6	19.6	22.1	20.9	25.1
Unqualified for jobs	5.7	4.6	6.2	6.3	5.9	7.2
Discrimination (by gender, ethnicity, parental status, etc.)	1.7	0.9	2.0	0.8	0.1	2.7
Failed pre-employment assessment (testing computer skills, foreign language skills, etc.)	1.6	1.5	1.6	1.1	1.2	0.9
Limited abilities due to health conditions	0.4	0.7	0.2	0.6	0.7	0.5
Other	5.1	5.1	5.1	5.1	5.0	5.4
N, persons	3,392	878	2,514	2,003	1,446	557

4.4. First Job Characteristics

Top management positions and highly skilled jobs are held by 59.7% of graduates in economics and 57.4% of those in engineering (Table 3). Otherwise speaking, the proportion of workers with skills well-matched to their jobs is virtually the same in both groups. At the same time, downward mobility is much higher among engineers than among economists. Nearly one in five degreed engineers (18.6%) is employed as an unskilled worker, which is three times higher than the rate for degreed economists (6.2%).

About two thirds of the graduates in both occupations reported being matched to their first jobs. For female graduates, education-job match differs little between the occupations, but this is not the case for male graduates. Only half (52.0%) of the economists felt that their first jobs were matching their major, which is almost one third lower than the proportion among the engineers.

First-job salaries of economics graduates are 20% lower than those of their engineering counterparts (22,900 vs. 28,500 rubles), men being paid on average higher than women.

5. Transition from Study to Work: Is There a Difference Between Engineering and Economics Graduates?

In accordance with the hypotheses formulated above, regression models were estimated for log wage, probability of major-job match,

Table 3. **First-Job Employment Characteristics (%)**

	Economics and Management			Engineering and Technology		
	Total	Males	Females	Total	Males	Females
Career						
Top managers	8.8	13.8	7.2	8.1	8.8	5.7
Highly skilled professionals	50.9	40.2	54.2	49.3	47.9	53.7
Medium-skilled professionals	13.3	13.7	13.2	12.4	12.9	10.9
Public servants	6.4	2.4	7.7	2.7	0.9	8.3
Service and sales workers	14.1	13.8	14.2	8.4	7.0	12.8
Skilled agricultural workers	0.3	0.3	0.3	0.5	0.6	0.2
Skilled workers	2.2	6.4	0.9	9.9	11.8	4.1
Operators, assembly fitters, drivers	2.2	5.9	1.0	6.3	7.2	3.4
Unskilled workers	1.8	3.6	1.3	2.4	2.8	1.1
Relationship between education and job						
Match (Yes, Rather yes)	62.6	52.0	65.9	67.0	68.4	62.9
Mismatch (No, Rather no)	37.4	48.0	34.1	33.0	31.6	37.1
Wage						
Mean, thousand rubles	22.9	26.5	21.9	28.5	30.0	23.3
Median, thousand rubles	20.0	25.0	20.0	25.0	28.0	20.0

qualifications-job match, average job search time, and probability of being employed. Table 4 presents the results of testing each hypothesis by consecutively adding the sets of variables specified in Section 3. The table only contains parameter values of the “engineer/economist” variable, their significance levels, sample size, and explained variance, or the coefficient of determination. Reports with complete sets of explanatory variables for every dependent variable can be found in the Appendix.

5.1. Wages The results of assessing an extended Mincer equation with the listed sets of factors added consecutively show that wages of engineers are significantly higher than those of economists only in the models with fixed regional effects (Table 4). However, when personal, human capital, first job, and local labor market characteristics are controlled for, it turns out that engineering graduates are not paid higher than holders of degrees in economics; in fact, they are paid even lower, although the gap is not significant in most specifications. Assessment of the regression models with complete sets of variables reveals that

Table 4. **Parameter Values of the “Engineer/Economist” Binary Variable**

	Regional fixed effects included	Personal characteristics added	Human capital characteristics added	First job characteristics added	Local labor market characteristics added
Dependent Variable	(1)	(2)	(3)	(4)	(5)
LN(wage)	0.194*** (0.013)	−0.195* (0.107)	−0.177 (0.121)	−0.282 (0.183)	−0.247 (0.186)
N of observations	3,939	3,939	3,939	3,939	3,939
R-squared	0.336	0.379	0.404	0.424	0.430
Major-job match	0.047*** (0.013)	−0.050 (0.113)	−0.009 (0.129)	0.022 (0.148)	−0.017 (0.150)
N of observations	6,540	6,540	6,540	6,540	6,540
R-squared	0.053	0.063	0.098	0.182	0.187
Qualifications-job match	0.014 (0.014)	0.178 (0.114)	0.190 (0.129)	0.170 (0.149)	0.187 (0.151)
N of observations	6,936	6,936	6,936	6,540	6,540
R-squared	0.054	0.056	0.108	0.359	0.361
Probability of being employed	0.015** (0.007)	0.015 (0.069)	0.098 (0.078)	−0.006 (0.080)	0.001 (0.079)
N of observations	6,936	6,936	6,936	6,936	6,936
R-squared	0.067	0.075	0.161	0.269	0.271
Average job search time	0.113*** (0.023)	0.100 (0.191)	0.395* (0.224)	−0.007 (0.233)	−0.056 (0.240)
N of observations	6,936	6,936	6,936	6,936	6,936
Pseudo R-squared	0.004	0.005	0.009	0.012	0.013

Standard errors in parentheses.

Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

wage levels are affected by graduates’ sociodemographic characteristics, the mode of study, and the specific features of the local labor market (Appendix, Column 1), whereas educational qualifications are found to play a small role. Public administration is the only career field where engineering graduates are paid higher than economists.

5.2. Education-Job Match

Our findings do not support the hypothesis about significant differences in job-matching probability between engineers and economists (Table 4; Appendix, Column 2). Industry of the first job and specific aspects of regional economy are what matters for getting an education-matching employment. Engineering graduates employed in sales and public administration are mismatched to their jobs 27–31% and

18–22% more often, respectively, than economists in the same sectors. Recent engineering graduates living in regions with high levels of process manufacturing and power engineering activity have better chances of matching their skills and qualifications to their jobs. Female engineers are 10% less likely to be employed in their field of study than female economists, the gap being even broader (14–15%) for married women. Most probably, these findings reflect the existing perception of engineering as a male-dominated field.

5.3. Qualifications-Job Match

The probability of finding a qualifications-matching job is more or less the same for both engineers and economists (Table 4; Appendix, Column 3). Young engineers matched horizontally are about 10% more likely to be mismatched vertically at their first jobs than recent economics graduates. It could be assumed that engineering graduates often start their careers from relatively low positions so as to rise through the ranks as they gain experience. Such career trajectories are primarily typical of enterprises with relatively high wage levels. This finding is indirectly confirmed by the observation that engineers employed in process manufacturing and power engineering are 24% and 21% less likely, respectively, to be matched to their jobs vertically. Besides, when graduates fill major-matching jobs which do not require a university degree (for engineers, those are mostly unskilled worker positions), it often means that the use of modern technology requires a high level of professional skills while offering formally low positions in the job hierarchy. Therefore, vertical educational mismatches do not always mean that demand for higher school knowledge and skills is low.

5.4. Average Job Search Time¹⁰

Significant differences between engineers and economists in average time it takes to find a job are observed among those who looked for (and found) employment in the formal economy (Table 4; Appendix, Column 4). Engineers tend to spend 19% more time than economists seeking for a job in the formal sector, which may indicate a limited number of engineering jobs in the corporate world. This is not so much about the lack of vacancies for recent engineering graduates; rather, it means that graduates do not find the available jobs suitable, in particular good-paying. Engineering graduates may also spend more time searching for a job because they expect higher returns on their education (in both absolute and relative terms) [Prakhov 2017] and often find their competencies to be inadequate to new technology requirements [Myagkov 2016].

¹⁰ Average job search time was modelled within a two-year period and was restricted to two years for those who spent more time than that. We assume that active job searching was suspended in two years and graduates quit the labor market for some time.

5.5. Probability of Being Employed¹¹ No significant differences are observed in the probability of being employed for economists and engineers (Table 4; Appendix, Column 5), with the exception of engineers who combined work and study from time to time—their chances of being employed were approximately 3% lower than those of economists with the same work-and-study patterns.

As we can see, descriptive statistics and regression analysis results reveal no significant differences between engineering and economics graduates in the probability of being employed and finding a job matching their level of education and field of study. No significant differences were found in average entry-level job salaries. That is to say, labor market entry patterns are virtually the same for recent graduates in both occupations.

6. Conclusion In contrast to widely held assumptions, the population of engineering graduates produced in the 1990s-2000s exceeded the number of professional engineers retiring from the labor force. As aggregate supply of engineering workforce was growing during the post-reform period, demand for engineers was shrinking, mostly due to a considerable decline in secondary sector employment. Therefore, analysis of macro statistical data casts doubt on the relevance of perceived engineering skills shortage.

Neither does assessment of the study-to-work transition support the commonly held belief that there is a shortage of engineering graduates and a surplus of economists. Chances of finding a job, average job search time, and vertical/horizontal educational mismatch statistics are more or less the same for recent graduates in both occupations. Their starting salaries do not differ to a statistically significant extent, either. In other words, there are no signs of supply-demand imbalance in any of the two occupations. This conclusion is largely consistent with the findings of other Russian researchers [Gimpelson et al. 2009; Stuken 2018].

The problem of engineering workforce shortage, so persistently reported by employers, has little to do with low supply at the macro-level. Non-competitive wages, often inconsistent with engineering graduates' expectations, are one of the reasons for the skills shortage, yet not the only one. This study did not take into account transaction costs. It might be that special engineering skills, which are usually narrower than competencies of economics graduates, face low demand due to high mobility costs and unawareness of narrow career options available in local labor markets.

The study results provide the basis for concluding that cutting government-funded university places for economists and increasing the

¹¹ Probability of being employed was assessed for the respondents who had graduated at least one year before the survey.

number of vacant places for engineering applicants will hardly improve job filling for engineering positions. Increased accessibility of engineering education may promote negative selection of engineers and positive selection of economists. Making engineering degrees accessible to underprepared candidates will boost government spending on pre-employment training, which will not yield expected returns in the future at either individual or national level. Universities face the need to develop education models allowing for the structure and specific aspects of regional economy, coordinate educational activities with employers on all fronts, and build a graduate employment monitoring system reflecting graduates' position in the labor market. An important national goal is to create institutional conditions to encourage coordination and interaction among the labor market actors as well as to provide them with adequate information.

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Appendix Regression Models with Complete Sets of Variables

Variable	LN (wage)	Horizontal education- al match	Vertical education- al match	Average job search time	Probability of being employed
	(1)	(2)	(3)	(4)	(5)
Engineer (base = economist)	-0.247 (0.186)	-0.017 (0.150)	0.187 (0.151)	-0.056 (0.240)	0.001 (0.079)
Age	0.006** (0.003)	-0.003 (0.003)	-0.0003 (0.002)	-0.024*** (0.005)	0.003** (0.002)
Female (base = male)	-0.138*** (0.025)	0.062** (0.024)	-0.019 (0.021)	0.067* (0.039)	-0.004 (0.012)
Female, married	-0.068* (0.037)	0.091** (0.040)	0.008 (0.036)	-0.026 (0.064)	0.008 (0.021)
Married (base = single)	0.065** (0.033)	-0.035 (0.036)	0.001 (0.032)	0.072 (0.057)	0.020 (0.020)
Years of experience	0.029*** (0.009)	0.028*** (0.008)	0.016** (0.007)	0.149*** (0.022)	0.032*** (0.004)
Years of experience squared	-0.002** (0.001)	-0.002*** (0.001)	-0.001* (0.001)	-0.010*** (0.002)	-0.003*** (0.001)
Mode of study: (base = full-time) Part-time	-0.020 (0.039)	-0.044 (0.039)	0.019 (0.033)	-0.104* (0.061)	-0.046** (0.022)
Extramural	-0.072** (0.033)	-0.069** (0.032)	-0.052** (0.026)	-0.166*** (0.053)	-0.063*** (0.021)
Combining work and study (base = never): Constantly	0.062* (0.035)	-0.076** (0.034)	-0.046* (0.027)	-0.049 (0.055)	0.013 (0.018)
From time to time	0.025 (0.024)	-0.085*** (0.025)	-0.042** (0.021)	0.0812** (0.039)	0.036*** (0.012)
Region of studies (base = region of residence): Other region	0.097*** (0.029)	-0.033 (0.029)	0.054** (0.025)	0.032 (0.043)	-0.009 (0.016)
Abroad	-0.121* (0.065)	0.136 (0.141)	-0.056 (0.105)	0.034 (0.257)	0.015 (0.069)
Type of funding (base = government-funded): self-funded	-0.042** (0.017)	-0.058*** (0.018)	-0.021 (0.016)	-0.138*** (0.030)	0.0003 (0.009)
Employment in the formal sector (base = informal sector)	0.036 (0.030)	0.113*** (0.025)	0.0303 (0.021)	0.608*** (0.046)	0.238*** (0.015)
Top manager, highly skilled professional (base = other groups)	0.071*** (0.023)				
Industry (base = unspecified): Agriculture		0.526*** (0.084)	0.121 (0.090)		
Mining	0.189* (0.0108)	0.410*** (0.099)	0.128 (0.099)		

	(1)	(2)	(3)	(4)	(5)
Process manufacturing	0.042 (0.074)	0.444*** (0.059)	0.194** (0.079)		
Electricity generation and distribution	0.154 (0.102)	0.380*** (0.086)	0.197** (0.093)		
Construction	0.124 (0.082)	0.501*** (0.065)	0.146* (0.082)		
Sales, food service, hospitality	0.052 (0.073)	0.330*** (0.056)	-0.005 (0.077)		
Transport and communications	0.055 (0.076)	0.420*** (0.061)	0.026 (0.081)		
Finance, real estate	0.061 (0.073)	0.542*** (0.056)	0.132* (0.078)		
Public administration	-0.089 (0.074)	0.535*** (0.058)	0.216*** (0.079)		
Education and healthcare	-0.066 (0.077)	0.449*** (0.062)	0.211*** (0.080)		
Other	-0.049 (0.090)	0.295*** (0.078)	0.088 (0.094)		
Matched to job	0.060*** (0.022)		0.513*** (0.017)		
Share of mining in the GRP (base = below the median): Above the median	0.489*** (0.140)	-0.066 (0.138)	-0.056 (0.117)	-0.902*** (0.218)	-0.123 (0.110)
Above the 3rd quartile	0.172* (0.097)	0.083 (0.105)	-0.082 (0.101)	0.244 (0.206)	0.110** (0.055)
Share of process manufacturing in the GRP (base = below the median): Above the median	0.656*** (0.111)	-0.195* (0.111)	-0.136 (0.115)	0.407 (0.255)	0.218*** (0.069)
Above the 3rd quartile	-0.012 (0.065)	-0.208*** (0.061)	-0.196*** (0.056)	0.692*** (0.176)	0.202*** (0.055)
Share of generated electricity in the GRP (base = below the median): Above the median	0.374*** (0.071)	-0.139* (0.076)	-0.174** (0.077)	0.425** (0.206)	0.211*** (0.057)
Above the 3rd quartile	-0.086 (0.108)	-0.354*** (0.086)	-0.082 (0.078)	0.098 (0.191)	0.198*** (0.060)
Deliverable housing (sq.m/ruble GRP) (base = Below the median): Above the median	-0.545*** (0.109)	0.056 (0.109)	-0.146 (0.109)	0.225 (0.203)	0.071 (0.059)
Above the 3rd quartile	-0.728*** (0.161)	0.034 (0.136)	-0.043 (0.125)	0.270 (0.253)	0.078 (0.069)
Type of locality (base = urban): rural	-0.033 (0.022)	-0.027 (0.022)	-0.007 (0.019)	-0.051 (0.035)	-0.024* (0.014)
Engineers: benefit/losses					
Age	0.008* (0.005)	0.004 (0.005)	-0.004 (0.005)	-0.002 (0.009)	0.001 (0.003)

	(1)	(2)	(3)	(4)	(5)
Female (base = male)	-0.003 (0.038)	-0.094** (0.038)	0.049 (0.033)	-0.118* (0.064)	0.011 (0.018)
Female, married	-0.048 (0.059)	-0.147** (0.059)	0.028 (0.054)	0.138 (0.102)	0.014 (0.029)
Married	-0.021 (0.040)	0.073* (0.043)	-0.005 (0.040)	0.024 (0.071)	-0.007 (0.022)
Years of experience	0.011 (0.015)	-0.005 (0.013)	-0.008 (0.013)	-0.015 (0.039)	-0.001 (0.007)
Years of experience squared	-0.001 (0.002)	0.0003 (0.001)	0.001 (0.001)	-0.0004 (0.005)	0.0004 (0.001)
Mode of study: (base = full-time) Part-time	-0.082 (0.066)	-0.047 (0.065)	-0.006 (0.056)	0.062 (0.110)	0.0289 (0.034)
Extramural	0.029 (0.060)	-0.032 (0.060)	-0.060 (0.051)	-0.054 (0.103)	-0.036 (0.036)
Combining work and study (base = never): Constantly	-0.014 (0.065)	0.009 (0.056)	-0.038 (0.046)	0.027 (0.099)	0.009 (0.028)
From time to time	0.033 (0.033)	0.067* (0.035)	0.066** (0.032)	-0.125** (0.060)	-0.031* (0.016)
Region of studies (base = region of residence): Other region	-0.047 (0.043)	0.062 (0.041)	-0.086** (0.038)	0.178*** (0.067)	0.023 (0.022)
Abroad	0.040 (0.095)	-0.167 (0.195)	0.241* (0.142)	-0.179 (0.339)	0.028 (0.115)
Type of funding (base = government-funded): self-funded	0.030 (0.027)	0.067** (0.027)	0.017 (0.025)	0.018 (0.046)	-0.016 (0.013)
Employment in the formal sector (base = informal sector)	0.001 (0.051)	-0.039 (0.040)	0.026 (0.036)	0.192** (0.079)	-0.007 (0.026)
Industry Agriculture		-0.135 (0.131)	-0.101 (0.137)		
Mining	0.032 (0.156)	0.140 (0.126)	-0.243* (0.137)		
Process manufacturing	0.047 (0.127)	0.032 (0.091)	-0.134 (0.109)		
Electricity generation and distribution	-0.028 (0.147)	0.142 (0.114)	-0.220* (0.124)		
Construction	0.082 (0.132)	-0.056 (0.096)	-0.131 (0.112)		
Sales, food service, hospitality	0.095 (0.127)	-0.308*** (0.090)	-0.140 (0.108)		
Transport and communications	0.104 (0.129)	-0.055 (0.094)	-0.124 (0.111)		

	(1)	(2)	(3)	(4)	(5)
Finance, real estate	0.085 (0.127)	–0.049 (0.089)	0.021 (0.109)		
Public administration	0.236* (0.130)	–0.220** (0.095)	–0.091 (0.114)		
Education and healthcare	0.031 (0.138)	–0.094 (0.100)	–0.088 (0.114)		
Other	0.145 (0.168)	–0.124 (0.129)	–0.081 (0.139)		
Matched to job	0.001 (0.033)		–0.098*** (0.029)		
Share of mining in the GRP (base = below the median): Above the median	–0.051 (0.034)	0.018 (0.035)	0.051 (0.033)	0.086 (0.061)	–0.005 (0.017)
Above the 3rd quartile	0.049 (0.036)	–0.032 (0.034)	–0.017 (0.031)	0.046 (0.059)	0.019 (0.017)
Share of process manufacturing in the GRP (base = below the median): Above the median	–0.035 (0.035)	0.023 (0.035)	0.010 (0.033)	0.070 (0.062)	–0.020 (0.017)
Above the 3rd quartile	0.028 (0.030)	0.078** (0.031)	0.022 (0.028)	0.022 (0.053)	–0.022 (0.015)
Share of generated electricity in the GRP (base = below the median): Above the median	–0.029 (0.029)	0.034 (0.030)	0.007 (0.028)	–0.035 (0.054)	–0.014 (0.014)
Above the 3rd quartile	0.046 (0.033)	0.063* (0.035)	–0.049 (0.032)	–0.135** (0.058)	–0.022 (0.017)
Deliverable housing (sq.m/ruble GRP) (base = Below the median): Above the median	–0.037 (0.033)	–0.069** (0.032)	–0.005 (0.030)	0.063 (0.057)	0.024 (0.016)
Above the 3rd quartile	0.021 (0.037)	0.050 (0.036)	0.020 (0.033)	0.016 (0.060)	0.019 (0.017)
Type of locality (base = urban): rural	–0.051 (0.035)	–0.022 (0.034)	–0.035 (0.031)	0.0793 (0.054)	0.016 (0.019)
N of observations	3,939	6,540	6,540	6,936	6,936
R-squared	0.430	0.187	0.361	0.0126	0.271

Fixed regional effects are omitted in the report.

Robust standard errors in parentheses.

Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The Modern Rector: Competencies Required in the Global Academic Marketplace

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Abstract The article presents the results of studying the competencies of university leaders, including those that ensure university effectiveness in the global academic marketplace. Rector appointment and selection procedures are analyzed across countries. The study uses pre-collected data on careers of 93 university leaders, of which 52 are in charge of Russia's leading universities (including 21 Project 5–100 institutions) and 41 govern foreign universities ranked in the top 100 of the QS World University Rankings® 2018. The following parameters are analyzed as constituent parts of university leaders' rectorship experience: working abroad experience, business work experience as Head of Department or higher, academic work experience including top management positions, scientometric indicators, work experience in public service, age, years of teaching and research experience, years of university leadership experience, years of rectorship at another university. Significant differences have been revealed in the competencies possessed by university leaders in Russia and abroad. The rectors of top foreign universities have a more diverse experience in varied fields necessary to ensure university effectiveness, and they also demonstrate higher career mobility.

Keywords higher education institution rector, rectorship, global university governance experience, university management competencies, management in education, Project 5–100.

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Association Between the Quality of Teacher-Child Interaction and Language Development

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Abstract. The article presents a review aimed at studying the relationship between classroom quality and preschoolers' language development. Classroom quality is understood as the quality of teacher-child interactions in the kindergarten classroom. The rationale for this study is determined by multiple findings that language devel-

opment at preschool age is a powerful predictor of schooling outcomes.

Research results are analyzed and systematized separately for three domains of the Classroom Assessment Scoring System (CLASS™): instructional support, emotional support, and classroom organization. We demonstrate which aspects of language development (phonological awareness, vocabulary, sound-letter knowledge) are affected more or less by classroom quality. The article presents the results of correlational and longitudinal studies. The high level of agreement among their findings indicates effectiveness of the CLASS™ as a method to assess classroom quality and the significant impact of classroom quality on language development in the three domains specified.

Keywords: preschool age, classroom quality, Classroom Assessment Scoring System (CLASS), instructional support, emotional support, classroom organization, language development, vocabulary, phonological awareness, sound-letter knowledge.

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Education quality enjoys the status of an independent field of research today [Burchinal et al. 2009; Peisner-Feinberg et al. 2001], and the past decade has seen diversification of research problems within the field. A bunch of studies analyze the influence of teacher-child relationship on preschoolers' cognitive, emotional, and social development [Palermo et al. 2007]. Cross-disciplinary studies designed to

identify the most efficient strategies of investing in education development [Barnett 2008; Heckman 2006] are growing in number. What all those research directions have in common is the focus on kindergarten classroom quality as a critical factor of child development [Mashburn et al. 2008; Pianta, La Paro, Hamre 2008].

This article provides a review of studies on the association between classroom quality and language development of preschool children. Our interest in language development is driven by its essential role in the development of children's cognitive abilities, emotional self-regulation skills, and psychological readiness for school.

Classroom Quality

Modern studies discriminate between early childhood learning environment and classroom quality. Learning environment is assessed with easily measureable indicators, such as teacher-child ratio, availability of materials and facilities for children's creative and play activities, accessibility of materials, teachers' experience and professional qualifications [NICHD Early Child Care Research Network 2005]. The quality of learning environment is assessed in global research using the *Early Childhood Environment Rating Scale (ECERS-R)* [Harms, Clifford, Cryer 2014]. This instrument measures some aspects of classroom quality, too. However, the resulting assessment is comprehensive and normally does not provide a complete picture of kindergarten classroom interactions.

Classroom quality is harder to evaluate because it is teacher-child interactions that should be assessed. The existing characteristics of classroom quality have descended from psychological theories of human development. John Bowlby's theory of attachment [Bowlby 1969] gave birth to the concept of dynamics of interpersonal relationships; Urie Bronfenbrenner's theory of ecological systems [Bronfenbrenner 1986] is where understanding of family as an aggregate of hierarchical subsystems has come from; Lev Vygotsky's cultural-historical approach to development [Vygotsky 1980] provided evidence for the important role of communication in children's mental development. The most efficient instrument for observing those characteristics is the Classroom Assessment Scoring System™ (CLASS™) [Pianta, La Paro, Hamre 2008; Almazova, Bukhalenkova, Simonyan 2018].

This study focuses on classroom quality as a factor of language development, since a number of publications testify that it plays a guiding role [Justice, Piasta 2011; Vasilyeva, Waterfall 2011]. In particular, language development in early childhood is related to child's interactions with adults and peers in the kindergarten [Catts, Adlof, Weismer 2006; Curby et al. 2009; Hu et al. 2016; NICHD Early Child Care Research Network 2005, and others]. We expect that a review of available studies will allow us to identify the components of early childhood classroom quality that affect preschoolers' language development the most. The main contribution of this study is that disaggregat-

ed findings in this field are analyzed and systematized in the Russian language for the first time. Our review seeks to answer the following research questions:

1. Is there agreement among the findings of the studies using the CLASS™ instrument to assess classroom quality?
2. Does teacher-child interaction quality have a statistically significant impact on preschool children's language development?
3. Does this impact vary as a function of children's socioeconomic status and personal psychological characteristics?

**Indicators of
Language
Development**

Language development is an umbrella term covering several mental processes that a child needs to acquire oral and written language skills. The National Early Literacy Panel's report distinguishes between phonological development, lexical development, syntactic/grammatical development, and sound-letter knowledge as components of language development [Lonigan, Shanahan 2009]. Phonological development involves the ability to detect spoken language and individual phonemes as well as to produce sounds and words using the articulation skills acquired. Lexical development is assessed through the effectiveness of learning the meaning of words (lexical units); it is expressed as the size of a child's vocabulary. Syntactic/grammatical development is about learning the rules to combine words into sentences. Finally, sound-letter knowledge is the ability to associate sounds (letters) with graphical symbols, which includes early reading and writing skills.

Similar classifications of language development milestones are presented in Russian publications. Tatiana Akhutina and her colleagues suggest treating oral praxis as manifestation of articulation development, rhythm and word repetition and oral speech comprehension as the outcome of phonological development, ability to name objects and actions as an indicator of lexical development, and understanding and use of syntax as a measure of syntactic development [Akhutina et al. 1996]. Lyubov Tsvetkova and Izabella Abeleva identify the sensorimotor, lexicogrammatical, and psychological levels of language development [Abeleva 2012; Tsvetkova 2004]. The sensorimotor level is responsible for auditory speech perception; the lexicogrammatical level is where speech is processed (comprehension of words and the structure of single utterances); and the psychological level is that of written and oral speech comprehension.

This review will rely upon the typology used in the National Early Literacy Panel, as it fully matches the methodology of the studies analyzed [Lonigan, Shanahan 2009]. Those studies confine themselves to exploring phonological awareness, vocabulary, and sound-letter knowledge as aspects of language development, leaving out syntax—probably because syntactic awareness and knowledge are hard to assess in preschool children.

Search Strategy The review covers studies on the relationship between classroom quality and language development (phonological awareness, vocabulary, and sound-letter knowledge) published between 2009 and 2018. When selecting the publications, we considered the teacher-child ratio in kindergarten classrooms (excluding the studies with three and fewer students per teacher). The review does not include studies with sample groups smaller than 13 children. The electronic databases Web of Science and eLibrary were used to search for full texts of the articles. Of the 30 publications found, 25 satisfied the search criteria specified above. The selected studies analyze children aged 3–7 years attending kindergartens in Australia, Great Britain, China, Portugal, the United States, Finland, and Sweden.

Classroom Quality Assessment Methodology All the studies reviewed use the CLASS instrument to assess classroom quality [Pianta, La Paro, Hamre 2008], as it works perfectly for establishing the picture of teacher-child interactions in the kindergarten. Our methodology takes cue from empirical findings that demonstrate the crucial role of adult-child interactions throughout children's mental development [Downer, Sabol, Hamre 2010]. Data on classroom interactions is collected using the method of structured observation in which an expert observes teachers instruct and communicate with children in a few consecutive 20-minute observation cycles. Within each cycle, the expert documents carefully the characteristics of teacher-child and peer interactions across three domains: emotional support, instructional support, and classroom organization.

The emotional support scale captures how teachers create an emotionally safe environment, which implies establishing friendly (literally “warm”) and supportive relationships with children. Important effects of emotional support on children include enjoyment in learning, comfort in the classroom, and appropriate levels of independence in choosing activities and peers to interact with.

The instructional support scale is designed to evaluate the tools that teachers use to develop cognitive and language skills in children. It captures how teachers promote children's thinking and engage them in learning (diversity of learning materials and interaction patterns). The score will be high if teachers regularly give challenging tasks to children and encourage them to solve the tasks independently, supporting and extending their ideas. Teacher feedback quality is an essential ingredient of preschool teaching: it must be personalized and extensive, and stimulating generation of new ideas (not just being the “correct-answer” type).

The classroom organization scale allows assessing the effectiveness of instructional strategies and the quality of classroom organization. A high score is awarded if the teacher promotes self-regulation skills in children, has clear and uncontroversial expectations about their behavior, communicates the rules for group interaction in

a clear way, and fosters commitment to those rules in all kinds of situations.

Therefore, the CLASS enables experts observing kindergarten classrooms in real life to evaluate comprehensively the quality of classroom interactions. The three scales assess different aspects of interactions, providing for differentiated analysis of classroom quality.

Language Development Assessment Methodology

The phonological component of language development (phonological awareness, oral language comprehension) was assessed using the Test of Preschool Early Literacy [Lonigan et al. 2007], the Phonological Awareness and Literacy Screening [Invernizzi et al. 2004], and the phonological skills test methods proposed by Minna Torppa [Torppa et al. 2007].

Children's lexical development was evaluated using such tools as Peabody Picture Vocabulary Test [Dunn et al. 1965], Test de Vocabulario Imagenes Peabody [Dunn et al. 1986], Chinese Version of the Peabody Picture Vocabulary Test [Lu, Liu 2005], and Picture Vocabulary Subtest of the Woodcock-Johnson [Woodcock et al. 2001]. The Oral & Written Language Scale was used to test children's oral expression skills [Carrow-Woolfolk 1995].

Researchers made inferences about children's ability to detect and use sound/symbol correspondences by testing their knowledge of letters and numbers with the Woodcock-Johnson Tests of Cognitive Abilities [Woodcock et al. 2001] and the Tool for Assessing Reading and Writing Skills [Lerkkanen, Poikkeus, Ketonen 2006] and their understanding of the forms and functions of written language with the Preschool Word and Print Awareness assessment [Justice, Piasta 2011] and the Test of Preschool Early Literacy [Lonigan et al. 2007].

Correlational Studies

A meta-analysis of ten studies evaluating phonological development and letter-sound knowledge [Aikens et al. 2010; 2012; Bulotsky-Shearer et al. 2014; Burchinal et al. 2009; Curby, Brock, Hamre 2013; Dotterer et al. 2013; Peisner-Feinberg et al. 2008; Peisner-Feinberg, Schaaf, LaForett 2013; Weiland et al. 2013; West et al. 2010] was conducted by Michal Perlman and his co-authors [Perlman et al. 2016] to assess the relationship between classroom quality and children's mental development. The aggregate sample included over 7,000 children aged 4–6. The meta-analysis did not reveal any significant relation between vocabulary size or letter knowledge and CLASS indicators. Such results, however, could be explained by using an inefficient method of data analysis. In a methodological study, Christina Weiland and her co-authors demonstrated low efficiency of using correlational procedures to assess the association between preschool quality and children's developmental outcomes [Weiland et al. 2013].

The sharp decline in the number of correlational studies in the field is probably explained by the need to figure out which methods actually work.

Longitudinal Studies

An alternative to correlational analysis is longitudinal studies. Their design allows observing the development of children in kindergarten classrooms of different quality over a long period of time. Bridget E. Hatfield regards longitudinal studies as a type of natural experiment, in which classroom quality is the experimental condition [Hatfield et al. 2016]. The longitudinal method makes it possible to control for additional factors affecting language development (socio-economic status, cultural and ethnic background, etc.) by measuring the impact of classroom quality on language development. For this purpose, researchers observe children twice, at the beginning and at the end of a kindergarten year. Analysis of the differences between the baseline and end-of-year assessment results provides for experimental evaluation of the role of classroom characteristics in children's mental development. Below, we will focus on the longitudinal studies analyzing language development characteristics as indicators of preschoolers' mental development.

A number of studies reveal a significant impact of instructional support quality on sound-letter knowledge and vocabulary [Aikens et al. 2010; Burchinal et al. 2009; 2010; Dotterer et al. 2013; Howes et al. 2008; Mashburn et al. 2008]. It has been established that children in classrooms offering a higher quality of instructional support show significantly greater gains in vocabulary learning, oral expression, and letter knowledge. According to Andrew J. Mashburn, developmental effects depend largely on the quality of teacher-child interactions, whereas curriculum, class size and teachers' qualifications have no significant influence on children's development [Mashburn et al. 2008:742].

Ying Guo and her colleagues found emotional and instructional support to be statistically significant predictors of children's print awareness and vocabulary knowledge [Guo et al. 2010]. A few years later, the research team conducted a study to examine how vocabulary gains were affected by classroom quality and classroom age composition [Guo et al. 2014]. During a preschool year, children attended mixed-age and same-age classrooms of differing quality. Of all the parameters analyzed, only classroom organization was found to have a significant impact on vocabulary gains.

Some research groups have found emotional support quality to have significant effects on the development of letter-sound knowledge [Hamre, Pianta 2005; Pakarinen et al. 2017; Silinskas et al. 2017]. A Finnish research team led by Gintautas Silinskas revealed that Grade 1 reading outcomes are much better in classrooms in which teachers show warmth and sensitivity, provide well-established routines, and

set clear expectations for student behavior [Silinskas et al. 2017:1]. The studies mentioned discover differences in how teacher-child interaction quality affects language development as a function of children's individual characteristics. Bridget K. Hamre and Robert C. Pianta demonstrate that positive effects are higher for children with fewer socioeconomic resources as well as for those with behavioral, communication, and cognitive problems. Eija Pakarinen and her co-authors found positive effects of classroom interactions to be stronger for children who initially had difficulties with language development than for those who never experienced such problems.

A Chinese research team assessed kindergarten effectiveness by examining the relationship between investment of financial resources in early childhood education and student cognitive development [Hu et al. 2016]. Of all the parameters analyzed, only teacher-child interaction quality was a significant factor of vocabulary development. The effect of instructional support was most salient, followed by emotional support and classroom organization.

As Hatfield and her colleagues found out, children in well-organized classrooms show significantly greater gains in print and phonological awareness than those in poorly organized classrooms [Hatfield et al. 2016]. However, classroom organization quality only has significant impact on language development in classrooms with high levels of emotional support.

Terri J. Sabol and her co-authors examined the influence of preschool classroom quality and children's engagement in learning on language development [Sabol, Bohlmann, Downer 2018]. Engagement in learning was assessed as observed children's individual engagement with teachers and peers and their interest in learning activities. Quality of instructional support and classroom organization was found to influence the development of sound-letter knowledge. The scholars emphasize that children's positive engagement was a more powerful predictor of language development than the indicators of classroom quality. Their findings offer a new perspective for classroom quality research as they provide evidence for the significance of individual psychological characteristics of children as educational actors.

Discussion A meta-analysis of studies examining the association between classroom quality and preschoolers' language development conducted by Perlman and his colleagues [Perlman et al. 2016] revealed no statistically significant relations. Similar findings were obtained in another meta-analysis [Cornelius-White 2007]. Longitudinal studies turned out to be more informative. Table 1 combines the results of the reviewed studies that measure association between the CLASS and preschool children's phonological awareness, vocabulary, and letter-sound knowledge.

Table 1. Association Between the CLASS Measures and Components of Preschoolers' Language Development

Author(s)	N	Age	Language Development Assessment Methods	ES	IS	CO
Aikens N. et al. 2010	3,315	3–4 years	[PPVT-4; Dunn 2006] - Vocabulary [WJ-III; Woodcock 2001] - Letter-sound knowledge		+	
Guo Y. et al. 2010	328	3–5 years	[PPVT-III; Dunn 1997] - Vocabulary [PWPA; Justice 2001] - Letter-sound knowledge	+	+	
			[PALS; Internizzi 2004] - Phonological awareness	+	+	–
Guo Y. et al. 2014	130	4–5 years	[PPVT-III; Dunn 1997] - Vocabulary	–	–	+
Burchinal M. et al. 2010	1,129	3–4 years	[PPVT-III; Dunn 1997] - Vocabulary [OWLS; Woolfolk 1995] - Phonological awareness Letter knowledge - Letter-sound knowledge	–	+	
Dotteter et al. 2012	3,584	3–5 years	[PPVT-III; Dunn 1997] - Vocabulary [OWLS; Woolfolk 1995] - Phonological awareness [WJ-III; Woodcock 2001] - Letter-sound knowledge	–	+	
Howes C. et al. 2008	2,8	3–4 years	[PPVT-III; Dunn 1997] - Vocabulary [OWLS; Woolfolk 1995] - Phonological awareness [WJ-III; Woodcock 2001] - Letter-sound knowledge	–	–	
Mashburn J. et al. 2008	2,439	4–5 years	[PPVT-III; Dunn 1997] - Vocabulary [OWLS; Woolfolk 1995] - Phonological awareness [WJ-III; Woodcock 2001] - Letter-sound knowledge	–	+	
Hamre B et al. 2005	919	5–6 years	[PPVT-4; Dunn 2006] - Vocabulary [WJ-III; Woodcock 2001] - Letter-sound knowledge	+	–	
Hamre B et al. 2013	1,407	4–5 years	[PPVT-4; Dunn 2006] - Vocabulary [WJ-III; Woodcock 2001] - Letter-sound knowledge	–	–	
Silinskas G. et al. 2017	1,029	5–7 years	Reading of letters and words - Letter-sound knowledge	+	–	+
Pakarinen E. et al. 2017	515	6–7 years	[Torppa 2007] - Phonological awareness	+	–	+
Hu Y. et al. 2013	589	5–6 years	[C-PPVT-R; Lu 2005] - Vocabulary	+	+	+
Hartfield B. et al. 2015	875	3–4 years	[PPVT-III; Dunn 1997] - Vocabulary [OWLS; Woolfolk 1995] - Phonological awareness [WJ-III; Woodcock 2001] - Letter-sound knowledge	–	+	–
Burchinal M. et al. 2013	929	4–5 years	[PPVT-III; Dunn 1997] - Vocabulary [OWLS; Woolfolk 1995] - Phonological awareness [WJ-III; Woodcock 2001] - Letter-sound knowledge		–	
Sabol T. et al. 2018	211	4–5 years	[PPVT-III; Dunn 1997] - Vocabulary [WJ-III; Woodcock 2001] - Letter-sound knowledge [TOPEL; Lonigan 2007] - Phonological awareness	–	+	–

Notes: (a) ES—Emotional Support; IS—Instructional Support; CO—Classroom Organization; (b) "+" denotes a significant positive relationship between the parameters; "–" denotes that no significant positive or negative relationship between the parameters is observed; (c) Empty cells denote that no data on relationship between the parameters is available.

Analysis of the studies listed above provides answers to the research questions asked at the beginning of this review. The first question concerned agreement among the findings of the studies examining how preschoolers' language development is associated with the classroom quality indicators assessed using the CLASS instrument. There is obvious agreement in assessing the influence of instructional support on different aspects of children's language development, statistically significant effects being reported by most of the studies reviewed. However, salient discrepancies are observed in assessment of the role of emotional support quality. We believe that differences in the magnitude of association between emotional support and language development across the sample may be related to the problem of the "form and content" of communication. The emotional support scale measures teachers' ability to create an emotionally safe environment in the first place, while the instructional support scale evaluates the methods that teachers use to develop children's vocabulary and language skills. It can be thus concluded that instructional support quality does have a more significant impact on children's language development.

A lot of researchers exploring early childhood language development ignore the factor of classroom organization quality. Yet, the few studies that do consider this parameter testify to its high significance. For instance, better-organized classrooms are associated with greater gains in vocabulary [Curby et al. 2009; Hu et al. 2016], phonological awareness [Hu et al. 2016; Sabol, Bohlmann, Downer 2018], and letter-sound knowledge [Pakarinen et al. 2017; Silinskas et al. 2017]. The classroom organization scale of the CLASS instrument evaluates the methods that teachers use to foster children's learning abilities, engagement, and interest in learning. We suggest that including this scale in research may help discover important relationships, since it evaluates the teacher-child interactions that contribute to successful acquisition of new language skills by students.

The second question was whether teacher-child interaction quality has a statistically significant impact on preschool children's language development. A number of large-scale longitudinal studies show that children in better-organized classrooms show significantly higher language development gains in quite a range of aspects, such as vocabulary [Aikens et al. 2010; Curby, Brock, Hamre 2013; Dotterer et al. 2013; Guo et al. 2010; Howes et al. 2008; Hu et al. 2016; Mashburn et al. 2008; Pakarinen et al. 2017], ability to recognize and name letters [Aikens et al. 2010; Burchinal et al. 2010; Hamre et al. 2013], oral speech comprehension [Mashburn et al. 2008], and awareness of written language [Guo et al. 2010; Hatfield et al. 2016].

We believe that greater language development gains in well-organized classrooms can be explained by teachers actively expanding the zone of proximal development [Vygotsky 1980]. Probably, as a result of positive classroom interactions organized by the teacher (high

scores on the emotional support scale), children feel safe, confident, and enthusiastic about engaging in various tasks and conversations. The teacher promotes children's thinking and reasoning skills and creates situations that require classroom discussion (high scores on the instructional support scale). Children in high-quality classrooms tend to organize and express their own ideas on a regular basis, which is observed much less often in classrooms offering low quality of instructional support.

Our third research question was whether the impact of classroom quality on language development varies as a function of children's socioeconomic status and personal psychological characteristics. The available research findings show that the effects vary depending on children's socioeconomic backgrounds and on whether they experience behavioral, cognitive or communication problems as they enter kindergarten [Hamre et al. 2013; Sabol et al. 2018; Silinskas et al. 2017]. Positive effects turn out to be significantly stronger for children of lower socioeconomic status and those with behavioral, learning, and peer communication difficulties than for students outside those categories. Therefore, the risks in child development mentioned above can be mitigated by providing a high quality of teacher-child interactions in the kindergarten classroom.

This review has some important limitations that should be taken into account when using its results. First of all, it does not control for age variability across kindergarten classrooms. Most studies focused on the age of 4–5 years, but some samples included children aged 5–6. At different stages of child life, teacher-student interaction may affect the same aspects of language development in different ways. In addition, the review does not make allowance for region-specific cultural differences due to the lack of data on cultural and ethnic background of study participants in the reports published.

Conclusion This review examines the results of studies on the association between classroom quality and language development of preschool children. A number of studies show that teacher-child interaction quality has a considerable impact on children's language development. For example, students in classrooms offering high interaction quality tend to have greater gains in vocabulary, letter knowledge, and oral speech comprehension than children in lower-quality classrooms. Therefore, it is not unreasonable to argue that high classroom quality is associated with greater children's outcomes in each of the language development aspects analyzed (phonological awareness, vocabulary, and letter-sound knowledge).

A fairly high level of agreement among the study findings indicates that the CLASS is a rather efficient instrument to obtain information on teacher-child interaction quality in research on the association between classroom quality and preschoolers' language development. It

thus offers a promising method that is consistent with the logic of the cultural-historical theory and can be useful for studying classroom quality on Russian samples. The method can also be used to develop learning environment recommendations for kindergartens and pre-school educational institutions.

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To Include or Not to Include? Immigrant Children Education as Perceived by the Teaching Community in Sverdlovsk Region

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Abstract A survey of 160 school teachers was conducted in Sverdlovsk Region to find out what teachers think about whether immigrant children should be included or not, investigate the problems of inclusive and non-inclusive education for immigrant children, and consider feasible support measures for teachers dealing with this student category. As a social institution, the school responds to growing cultural diversity of the host community, while at the same time stabilizing it by reproducing certain sociocultural identities typical of the region and the country as a whole.

There is no consensus in the teaching community regarding which policy for immigrant children education should be preferred. About one third of the respondents believe such children should not be included since they do not speak the language of teaching (Russian). Meanwhile, 41 percent report that inclusive education makes adaptation and integration easier for immigrant children. Teachers interacting with immigrant children directly specify the problems and challenges associated with the emergence of this new student category: low learning preparedness, including poor knowledge of Russian; confrontations between children with differing migrant backgrounds; conflicts between immigrant and host community parents; difficulties of cultivating relations between teachers and immigrant parents; the precarious legal status of immigrants; and misunderstanding inflicted by differences in traditions, parenting practices and cultural norms that affect behavior. Most respondents (76%) are convinced that public education policy initiatives should prioritize enhancing teachers' professional competencies. Over half of the respondents find it necessary to increase funding for immigrant children education as well as payment for the teachers involved.

Keywords immigrant children, immigrant integration, inclusive education, multicultural education, Sverdlovsk Region.

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The Justice of Inequality, or Who Wins the Social Theory Olympiad and How

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Abstract Being members of the Central Subject-Specific Methodology Board for the Russian School Student Olympiad in Social Theory and members of the jury for its final round, we discuss the specific aspects of teaching social theory at school and preparing for the Unified State Examination and the Russian Olympiad in that subject. We examine different kinds and types of tasks offered in different rounds of the Olympiad, analyze their pitfalls and ultimate objectives, and discover the opportunities, prospects and challenges of applying the competency-based approach in preparing students for the Russian School Student Olympiad in Social Theory.

Keywords social theory, competency-based approach, Russian School Student Olympiad, commutative and distributive justice, assessment, education, competencies, humanities and social theories, Unified State Examination (USE), quality assurance in education.

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Enlightening Demands of Russians

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Abstract. The article presents the results of a large-scale survey conducted by Russian «Znanie» Society in 2017. The survey measured citizen awareness of local and national enlightenment ini-

atives, interest in specific topics and formats of educational events, motivation for learning and development, and willingness to pay for educational products, and it also tested the concept of an online enlightenment portal. We analyze the current globalization trends affecting the formats, topics and technology of enlightenment as well as educational niches that could be of public interest and of benefit to the digital future. Conclusions are made about the most in-demand fields of study and format preferences in learning and development.

Keywords: enlightenment demands, enlightenment programs, sociology of enlightenment, lifelong learning preferences in Russia, attitude towards learning and development programs, Russian «Znanie» Society.

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Enlightenment in the USSR and in Modern Russia

Enlightenment as a social activity is flexible and responds to the needs of society by expanding the horizons of people; helping to overcome obsolete stereotypes; contributing to the systemic synthesis of current knowledge; revealing the horizons of emerging knowledge [Grigoryan 2010].

The modern concept of “enlightenment” is different from the concept of “Enlightenment” of the XVIIIth century and from the concept of “promoting education”, which was used in Soviet society. The concept of “enlightenment”, according to many social philosophers and historians of science, is semantically connected with a certain stage in the formation of a culture of a new historical type. The term “The Age of the Enlightenment” is traditionally referred to XVIIIth century. The concept of “enlightenment” itself even without correlation with the historical period focuses not only on addressing gaps in education-

*Translated from
Russian by
A. Gurariy.*

al level of population, but also on its moral component. Vladimir Dal stressed that “the literacy itself will not reason with the peasant, it will rather confuse him, not enlighten him”¹. The Soviet scientific thought presented the concept of enlightenment ideologically: the tendency to eliminate social injustice, ecclesiastical obscurantism and philosophical mysticism was its inherent characteristic [Yakushkina, Ilakavichus 2016]. Currently, the concept of “enlightenment” has shifted from ideological towards utilitarian and technological meaning. We define it as an activity to promote a wide range of educational opportunities, achievements of science, technology and culture provided by state, commercial and public institutions and to spread it among the population for a fee or free of charge. Modern enlightenment has also a function of educating the population in the interests of society and the state [Maksimenko 2011] and is focused, as previously, on reducing the gap between million-plus cities and provinces in regard to the level of public awareness.

In addition to the utilitarian character, educational activities of modern Russia have several other features that distinguish them from the approaches which were typical for the Soviet-era. Among them is the predominance of individual learning over collective one, as well as the predominance of body practices (sports, diets, etc.) over spiritual and philosophical ones. As for the most in-demand skill to develop, it is a self-orientation in a rapidly changing world. Educational programs are expected to help individuals with finding some motivational drivers and a personal path in life, rather than with understanding a scientific view of the world, expanding one’s horizons and *unchaining the world* which was typical for Soviet era.

Under the circumstances of increasing speed of life and suffering from Future Shock [Toffler, 2002], an individual would rather prefer to *enchant* the world: to filter and to manage information flows and to search for harmony in rapidly changing environmental conditions. At the same time, there is a lack of a preventative approach in a general strategy of promoting educational activities [Pomelova 2009].

The image of an educator developed by the scientific and educational associations of the Soviet era has also undergone significant changes. Vladimir Lenin [1967] depicted Russian educator as a person who struggled against church dogmas, hated serfdom and fought for freedom, self-government and total Europeanization of Russia, as well as for upholding the interests of the masses presented mainly by peasants. The modern educator is not just a person who struggles against pseudoscience; his aspirations are not limited by receiving prestigious awards from various educational associations. Researchers depict an educator also as a person who is ready for some mis-

¹ V. I. Dal’s letter to the editor of the magazine “Russian Conversation” // Russian Conversation. 1856. Vol. III.

sionary work and dedicates himself to educational ideals [Solomonov 1993]. The contribution made by an educator distinguishes him or her from a number of promoters of ideas and products often lobbied by the industry.

The enlightening education has been extremely fragmented both in content and in learning formats for the past 20 years in Russia: high-quality projects coexist with unprofessional ones; volunteer movement is supported by state or regional funding. There isn't any official list of educational organizations and projects they hold in modern Russia, which significantly reduces the effectiveness of educational work across the country and limits the possibilities for coordinated interaction [Maksimenko, Danilov 2017]. Along with the science popularization projects (*Postnauka*, *Kurilka Gutenberga*, *Science Slam*, *Nauchpop*, *Pint of Science*, and others), there are various educational activities which are becoming popular: learning with animations, religious education, educational tourism, and other types of educational entertainment (edutainment). There are not only traditional educational institutions such as museums using interactive exhibits to promote education, but also different forms of hedonistic educational activities. Institutions for adult education (folk high schools) are still popular among people over 50 years old.

Studies on Enlightening Education Preferences of Russians

The information on enlightening educational preferences of Russians and preferred learning formats could be provided by special surveys. Such surveys could also provide information on skills and some personal features of an individual taking part in educational activities. There were no surveys on this issue during the Soviet era, since the party system centrally approved the list of topics brought to the public attention. There were plenty of surveys on lifelong learning and professional development learning formats (advanced trainings) for professional society as well as its content in the post-Soviet period. At the same time, there was not any systematic nationwide social research on the issue.

The 2017 survey conducted by the Russian Public Opinion Research Centre (WCIOM) by request of the Russian «Znanie» Society is one of the occasional studies on the phenomenon. The online survey was mainly concentrated on the interest of Russian youth (1500 respondents aged 16–25 years) in self-development courses and other educational trainings. According to the survey results, the respondents are mostly interested in developing creativity (50%), dancing, music, theater (24%) and sports (31%), as well as in getting a driver license (36%) when designing their personal development plan. The youth is also focused on developing communication skills (trainings on psychology and business education, 17–18%; public speaking, 12%); on programming (20%) and on enhancing information literacy by attending advanced IT Office Skills courses (14–15%). Although

the youth pays continued attention to developing their foreign language skills (20%), such an educational activity does not tend to gain more popularity in the near future. The professional development is also important for the respondents (22%) who are mostly interested in postgraduate studies (maximum response rate is among respondents aged 24-25 years).

The demand for an educational activity on certain topics is highly dependent on gender. So, men have higher interest in programming (22%), technology (23%), military-patriotic activities (16%), while women prefer music (32%), cooking (33%), foreign languages (25%), arts (27%), and trainings on psychology (21%), as well as fashion styling masterclasses (23%).

The results of the nationwide online-survey support our research hypothesis regarding practical character of the youth educational demands depending also on gender. According to the results, popular science is outside the youth interest.

The target audience of the survey conducted by the Russian Public Opinion Research Centre (WCIOM) was presented by the youth aged 16–25 years. There is no representative or reliable data on the educational demands of other age groups.

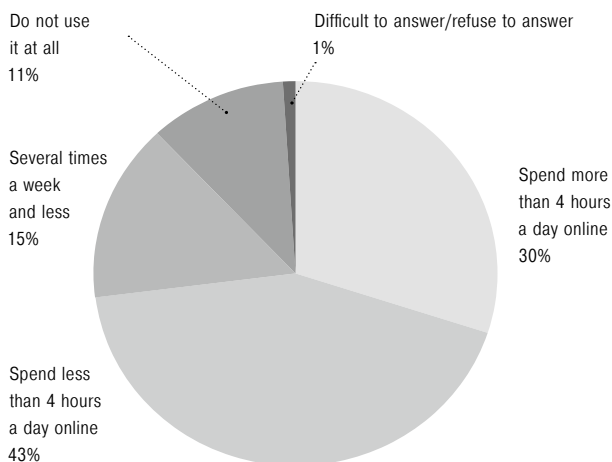
Empirical Basis of the Research

The Kostroma branch of the Russian «Znanie» Society conducted the research in 2017 to evaluate the educational demands of the population. The data was collected using a formalized questionnaire followed by a telephone surveying technique (Computer-assisted telephone interviewing or CATI). A total of 1100 respondents participated at the research across Russia to achieve the following research goals: to ascertain the level of public awareness about local and national educational projects; to determine the degree of interest in various topics and learning formats; to measure motivation in terms of trainings; to evaluate the payment capacity of population with regard to educational products; to test the concept of an online educational portal allowing site visitors to subscribe to the newsletters by interests.

The central research question aims to provide the information on specific interests of population in educational projects: whether they intend to acquire skills in modern technologies and innovations in order to adapt to rapidly-evolving world (Future Shock) or not. One more assumption to be verified during the research was the theory that the population would likely take part at educational activities without charge when projects were one-time or short-term ones; but if there was a long-term project to develop certain skills, people, on the contrary, would be ready to pay.

The respondents of the survey were citizens over the age of 18 to represent gender, age and type of settlement. There were 54,3% of women took part at the survey. According to the respondents, 73% of them use Internet every day, while only 11% do not use Internet at all (Fig. 1).

Fig. 1. Internet usage among the survey respondents

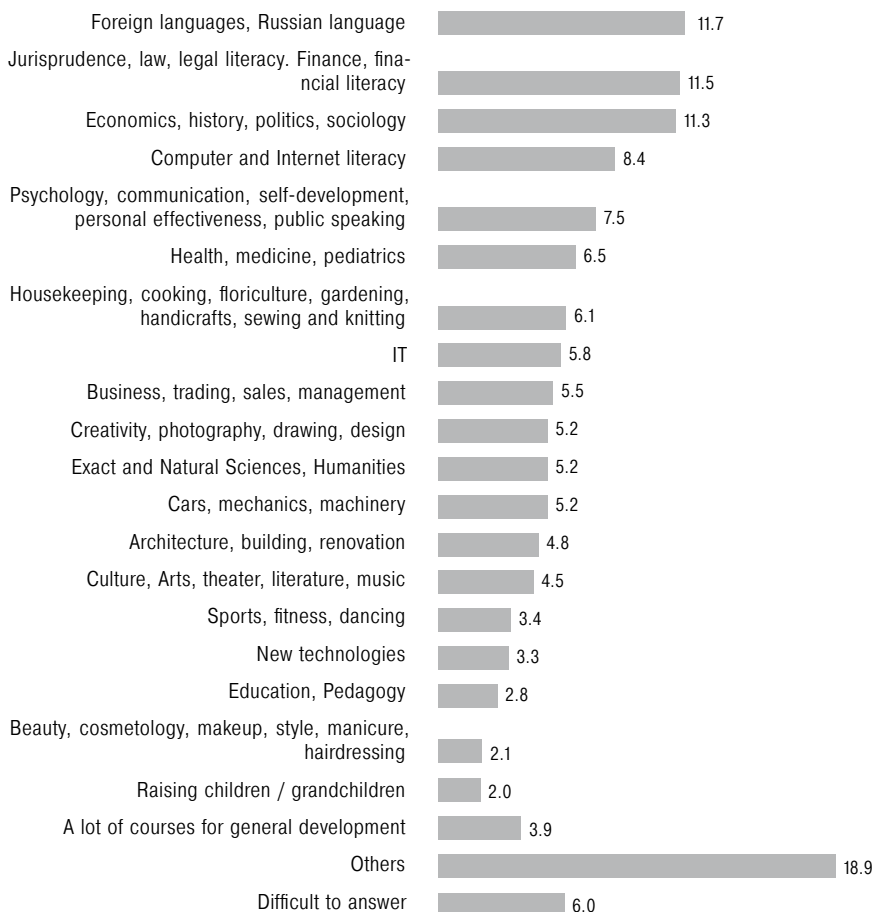


Demand for Education

According to the survey respondents, 60.8% of them evaluate their educational background as inadequate and have a demand for further education. The above average level of demand for education is among women (the women in maternity leave represent another group among female respondents: their interest in new knowledge is especially high); among younger age groups (up to 44 years old); among daily users of Internet; among population of large cities; among employees, entrepreneurs, freelancers. The most popular training courses are the following: foreign languages (Fig. 2), including Russian as a foreign language (11.7%); legal and financial literacy (11.5%); general issues of history, economics, politics, sociology (11, 3%); computer and Internet literacy (8.4%) as well as self-development, psychology and personal effectiveness (7.5%).

Such topics as legal and financial literacy, self-development and psychology, health, IT-technologies, cars and machinery, education are mostly popular among younger respondents (up to 29 years old). Respondents aged 30–44 are also interested in gaining legal and financial literacy as well as personal effectiveness skills, while they are more focused than younger generation on developing their skills in business, foreign languages, architecture, building and renovation, and doing sports. Respondents aged 45–59 reported that they would also like to learn foreign languages, to improve their computer and Internet literacy, to develop their housekeeping and handicraft knowledge. Retirement age respondents are willing to get understanding of social issues (economics, politics, sociology, history); to develop their computer skills; to get skills in housekeeping and needlework; to get knowledge in the field of culture and art (Table 1).

Fig. 2. Educational preferences of the survey respondents (%)



According to the research data, the public awareness of educational projects and portals is very low, while the most cited ones are edu.ru, uchi.ru, *Wikipedia*, *Synergy University (Moscow University of Industry and Finance "Synergy")*, *LinguaLeo*.

Personal Well-Being, Global Issues or Future Expectations

The expert of SKOLKOVO Education Development Centre (SEDeC) Pavel Luksha has suggested the educational content classification. According to Luksha, there are three levels of knowledge: about personal well-being; about global issues; about future challenges. According to the survey respondents, they are mostly concerned about future challenges (Fig.3). 54% of respondents are interested in gaining specific skills to adapt successfully to rapidly changing environ-

Table 1. **The most popular educational programs depending on age (%)**

Educational programs	Age (years)				Average results
	18–29	30–44	45–59	over 60	
Foreign languages, Russian language	10.4	12.2	13.2	8.5	11.7
Jurisprudence, law, legal literacy. Finance, financial literacy	14.2	14.6	7.5	6.0	11.5
Economics, history, politics, sociology	12.6	9.3	10.5	21.0	11.3
Computer and Internet literacy	0.6	3.0	15.1	26.0	8.4
Psychology, communication, self-development, personal effectiveness, public speaking	10.1	10.3	1.7	8.0	7.5
Health, medicine, pediatrics	8.9	5.0	6.1	7.6	6.5
Housekeeping, cooking, floriculture, gardening, handicrafts, sewing and knitting	1.7	2.5	12.6	10.7	6.1
IT	9.6	5.2	5.2	1.3	5.8
Business, trading, sales, management	2.8	7.5	6.8	1.0	5.5
Creativity, photography, drawing, design	5.9	5.7	4.9	2.7	5.2
Exact and Natural Sciences, Humanities	3.6	3.5	6.4	6.7	5.2
Cars, mechanics, machinery	7.2	5.7	3.7	3.2	5.2
Architecture, building, renovation	2.8	7.0	4.5	2.1	4.8
Culture, Arts, theater, literature, music	6.1	2.7	4.6	7.0	4.5
Sports, fitness, dancing	4.8	5.4	1.2	0.0	3.4
New technologies	2.8	2.1	4.4	5.9	3.3
Education, Pedagogy	6.2	1.7	2.2	0.8	2.8
Beauty, cosmetology, makeup, style, manicure, hairdressing	3.6	2.6	1.1	0.0	2.1
Raising children / grandchildren	2.6	1.8	1.8	1.9	2.0
A lot of courses for general development	2.8	1.9	7.6	3.9	3.9
Others	17.1	22.8	16.6	15.7	18.9
Difficult to answer	4.9	8.1	4.0	6.4	6.0

ment (Future Shock). The research data confirms Luksha's theory that an individual is scared of rapidly changing technology and innovations and confused by new terms and reality. Therefore, the introduction of new reality to the society should be one of the goals of the Russian Society "Knowledge".

The respondents also mentioned the following topics related to knowledge about personal well-being as most demanded (the response rate is more than 15%): healthy lifestyle and proper nutrition (21,6%),

Fig. 3. Interest in lectures on various topics according to the survey respondents (%)



legal and financial literacy (20,7%), adult and child health (20,6%), psychology of relations (17,6%), foreign languages (17,4%), basics of communication (15,3%), vocational guidance for children (15,2%).

As for the general knowledge, the respondents are interested in Russian history, culture, ecology, and regional studies (more than 17%). 16% of respondents would like to develop their media literacy skills to separate fake news from the truth.

According to the survey respondents, the future challenges are related to technological innovation in medicine, robotics, alternative energy sources and space exploration (the response rate is more than 20%). 15% of respondents are interested in cryptocurrency.

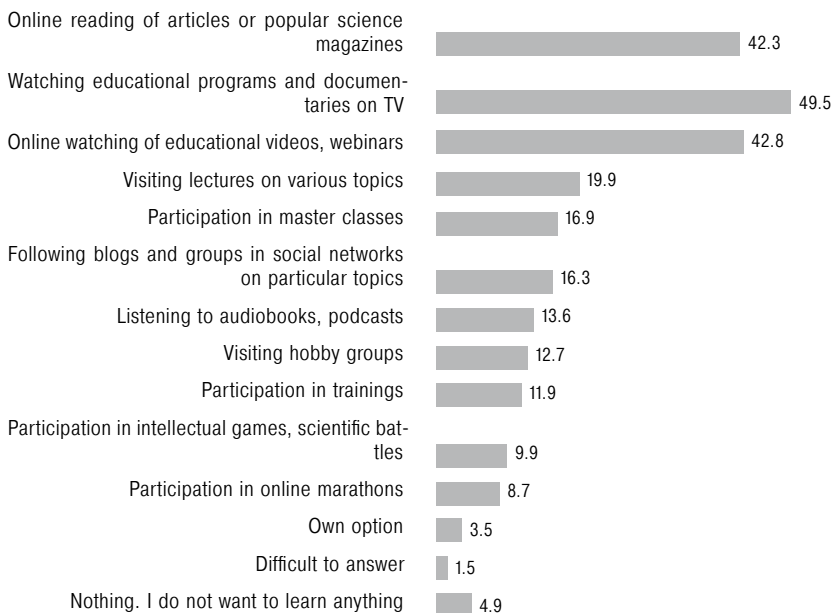
Therefore, the incoming issues and changes they will cause are one of the significant topics among educational demands of Russians. Whereas previously the population was mostly interested in gaining geographic knowledge (including space exploration) or understanding patterns in history, modern society is focused on trainings developing skills for an uncertain future. As a result, people search for those educational projects which expand their knowledge about life planning.

Preferred Learning Formats

The main educational sources according to the respondents of the survey are television (TV shows, documentaries) (49,5%) and the Internet providing an access to online articles, webinars and videos (the response rate is more than 42%). Offline learning (lectures and master classes) are less popular: only 17–20% of respondents regard these formats as convenient and suitable for them. Perhaps the popularity is lower because these learning formats are usually not free of charge. 16% of respondents use groups in social networks and blogs to get new information (Fig. 4). Women are more likely to try different online and offline learning formats compared to men.

Table 2 represents the differences in the preferred learning formats depending on the age group. Respondents under the age of 44 are ready to different learning formats: within the framework of the survey they mentioned 2,7 options. The main sources of knowledge

Fig. 4. Preferred learning formats according to the survey respondents (%)



for this group of respondents are the Internet (reading online articles, watching webinars and online videos) and television. Younger people are also willing to attend offline educational events, such as lectures, workshops and trainings. They are twice as likely as respondents over the age of 44 to choose face-to-face educational activities. The one more difference between younger people aged 18–29 years from older age groups is their readiness to learn from bloggers and through social networks as well as to participate in online marathons.

Older generation mentioned on average only two possible learning formats. That means they are more conservative in their preferences and have a limited access to information. The main source of knowledge for them is television (62%). Although they do not often use the Internet, it has already become an important learning channel (32% of older respondents read online articles, watch online videos and webinars). As for the hobby groups, they are more popular among elderly people than among young population.

Therefore, the main educational sources are television (49,5%) and the Internet (42%). Face-to-face educational activities hardly gain 20% according to the research data. There are visible differences in preferred learning formats depending on age. Younger people are ready to try different learning formats, including new ones; they

Table 2. **The most preferred learning formats depending on age (%)**

Preferred learning formats	Age (years)			
	18–29	30–44	45–59	over 60
Online reading of articles or popular science magazines	45,2	45,0	41,9	32,4
Online watching of educational videos, webinars	46,4	49,9	37,5	32,0
Visiting lectures on various topics	27,3	21,7	14,4	16,0
Following blogs and groups in social networks on particular topics	23,7	18,2	11,8	9,3
Watching educational programs and documentaries on TV	37,0	47,7	55,0	62,2
Listening to audiobooks, podcasts	15,5	15,2	13,4	7,4
Participation in master classes	21,7	17,4	16,1	9,3
Participation in trainings	20,0	13,4	8,4	2,8
Participation in online marathons	10,1	12,1	7,2	2,0
Visiting hobby groups	9,8	12,6	13,6	16,0
Participation in intellectual games, scientific battles	13,8	8,0	9,8	8,0
Own option	1,4	4,3	3,8	4,6
Difficult to answer	1,3	1,2	2,7	0,0
Nothing. I do not want to learn anything	2,6	2,8	6,4	10,2

are prepared to learn from popular social media personalities (bloggers). Older people prefer to gain new knowledge from TV shows and through face-to-face communication (hobby clubs and lectures).

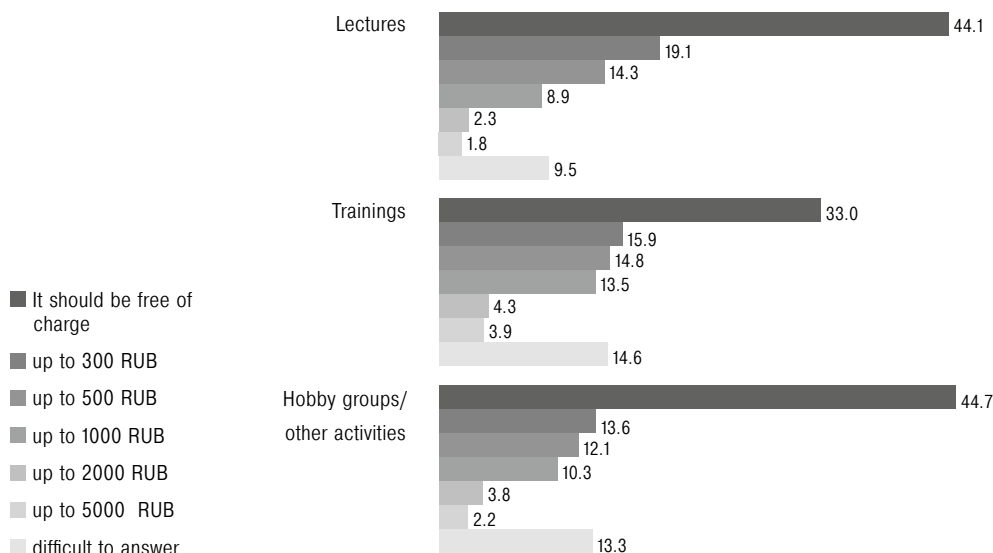
The respondents were also asked to list some key characteristics of an ideal educator. The participants of focus groups imagine an educator as intelligent, educated and influential person. Younger generation named Master Yoda as a suitable character, while older generation mentioned Fedor Aniskin as an example of an educator.

According to the list of jobs for the future, an educator refers to disappearing jobs which will not exist in 15–20 years. In order to prevent it, the Russian «Znanie» Society should provide educators with advanced trainings to improve their acting and public speaking skills.

Price for Educational Activities

More than one-third of respondents suggested each educational activity should be free of charge (Fig. 5). This applies particularly to lectures and hobby groups (up to 45% of respondents expect them to be free of charge). In contrast, the most acceptable price for those who are ready to pay for lectures or hobby groups is up to 300 rubles (the response rate varies from 14 to 19% depending on the learning format) or up to 500 rubles (12–15%). According to the respond-

Fig. 5. **Acceptable price for educational activities according to survey respondents (%)**



ents, the cost of trainings and master classes can be higher compared with price for lectures or hobby groups. However, it does not suppose any educational events (meetings with scientists, intellectual games, hobby groups, etc.) to be free of charge or cost less than 300 rubles, since the survey was not focused on any particular event. Therefore, the price can be significantly higher in the specific case supported by effective advertising.

The attitude towards payment for educational activities is connected strongly with age and income rate: the older the respondent and the lower his or her income is, the more he or she expects educational activities costing little or nothing.

Conclusions and Recommendations

The interest in enlightening education and demand for gaining general knowledge on different topics are relatively high among Russian population. While trainings on foreign languages, accounting etc. are actively organized by different state and private educational organizations, the trainings on wide range of topics do not have any proper organizational system. Among these topics are the following: Internet literacy; legal and financial literacy for beginners; adult and child health; new technologies etc. There is also a demand for expanding general knowledge. The technologies of the future are of specific interest, because individuals are usually unfamiliar with them what makes them feel frightened.

Mass culture also affects Russians and their educational demands which are becoming more pragmatic. Such tendency undoubtedly actualizes the problem of preserving the spiritual heritage and its transmitting in intergenerational interaction.

The nearest future and transformations it will cause are one of the most important topics among educational requests of Russians, according to the research data. As a result, Russians are more interested in life planning strategies and tend to act more rationally compared to the past.

The television (49.5%) and the Internet (42%) are the major educational sources. Face-to-face educational activities hardly gain 20% according to the research data. There are significant differences in preferences regarding learning formats among different age groups. As for the age and income rate, they have an impact on an individual's attitude towards training fees: the older the respondent and the lower his income is, the more he or she expects educational activities to be free of charge.

Enlightenment might be regarded as a powerful resource for educational work which is neglected due to the interest of population for self-development trainings and gaining general knowledge. However, Russians are still interested in issues in national development; in education; in religion and its role in human life and society. In order to provide an individual with critical skills for the nearest future, enlightenment as a system should be based on expert opinion and should be ready to implement modern ways of communication with population. Such research as presented in the article can make a practical contribution to the issue.

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Extracurricular Activities of School Students: Functions, Parental Strategies, and Expected Outcomes

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Abstract

A questionnaire survey ($N = 6,648$) and semi-structured interviews with parents of school students in a Russian megalopolis were carried out to analyze how families perceive the functions of extracurricular activities (ECAs), what choice strategies they follow, and what outcomes they expect. The study is premised on the assumption that ECAs for school students are not homogeneous in terms of their mission and expected outcomes. Empirical data is used to examine the compensatory and enriching functions of ECAs. The compensatory function is about closing gaps in school education through providing subject-specific classes. Enriching ECAs engage students beyond the school curriculum, contributing to diversity of the learning environment. Interview analysis allows identifying two major strategies followed by families when choosing enriching ECAs, depending on which type of skills they seek to cultivate in their children, soft (meta-subject competencies) or hard (specific knowledge shaped institutionally).

Keywords

school, extracurricular activities, family, student engagement in extracurricular activities, compensatory function of extracurricular activities, enriching function of extracurricular activities.

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Liberal and Conservative Trends in Post-Soviet Social Policies for Children

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Abstract This study examines the framework documents capturing the political rhetoric on children as well as different versions of the Russian law on children's rights to explore how government agencies perceive and treat children as a social group and what social policy values and norms are at play in this field in Russia. The sample includes documents of two genres: general child protection policies and existing laws. Content analysis allows identifying the underlying values and the principles of treating children (universalism, self-direction, benevolence, conservation, openness to change) as well as the methods of social policy (incentivization, normalization, prohibition) that have been reflected in the legislative documents. Analysis of how social policies for children were changing from the 1990s through the 2010s shows that both liberal and conservative trends were present. The liberal trend of the 2010s consisted in taking terms and values from the international legislative experience. In particular, children have come to be recognized as social actors and full-fledged participants of societal processes; the government's perception of children as a social group has become more individualized; orphanage deinstitutionalization is occurring; children's need for belonging and love has been acknowledged; the values of autonomy, such as independence and responsibility, are being encouraged in children. The conservative trend in social policies for children manifests itself in a statistically significant growth of support for the traditional values, such as multigenerational households, parental authority, and family loyalty.

Keywords children, social policy, government, children's rights, family, upbringing values, modernization, emancipation, conservatism, legislation, rhetoric, content analysis.

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Raising a Professor, or How Higher School Teachers Were Trained in the Russian Empire¹

Review of the book: Ivanov A. Uchenoe dostoinstvo Rossiyskoy imperii. XVIII—nachalo XX veka. Podgotovka i nauchnaya attestatsiya professorov i prepodavateley vysshey shkoly² [Scientific Dignity in the Russian Empire. 18th to Early 20th Century. Training and Qualifying Professors and Higher School Teachers]

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Abstract Anatoly Ivanov's book *Scientific Dignity in the Russian Empire. 18th to Early 20th Century. Training and Qualifying Professors and Higher School Teachers* gives the idea of academic degree attestation and awarding practices followed by Russian Empire universities. The structure and content of the book are analyzed from the perspective of its research potential and implications for historical science.

Keywords higher education, Russian empire, academic qualifications, academic degrees, academic ranks, educational traditions.

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² Moscow: Novy khronograf, 2016.