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ORIGINAL ARTICLE

Operationalising University Excellence in Doctoral Education: The Case of Top-Ranked Russian Universities

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Abstract

Numerous countries have implemented excellence initiatives designed to establish world-class universities, boost research productivity, build up staff capacity, and thereby reform doctoral education systems as part of this agenda. To date, the relationship between excellence-driven initiatives and leading universities' doctoral education enhancement remains understudied in Russia. This study seeks to examine how seven top-ranked Russian universities responded to the Excellence Initiatives (5-100 Project and Priority 2030) at the institutional strategy level from 2012 till 24 February 2022. To explore this relationship and change in research education, documentary research was applied to a corpus of institutional strategies for excellence accompanied with governmental texts. Norman Fairclough's Critical Discourse Analysis (CDA) was adopted and complemented with analytical lenses to understand and examine how university excellence is recontextualised and operationalised in doctoral education structures across these strategies. This CDA was enhanced with theoretical lenses to research how multiple forces behind governmental policies for globalisation, innovation, and international competitiveness shape this change in Russian doctoral education in relation to global trends, national priorities, and local needs. The paper presents and discusses emergent processes (with mechanisms and practices) and the universities' meaning-making behind the normative and performative 'enhancement' in doctoral education constructed with the state's dominant understandings of university excellence.

Keywords Excellence initiatives · Doctoral education · Internationalisation · Research enhancement · University excellence · CDA

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Introduction

The proliferation of neoliberal policies worldwide has reinforced the idea of knowledge-based economy and further promoted knowledge as a critical resource for economic growth, technological innovation, national development, and global competitiveness. Doctoral education is increasingly seen as a crucial element of research and development infrastructure which encourages world-class universities (WCUs) to compete for bright doctoral students, thereby contributing to their research performance and reputation (Bao et al., 2018; Shin et al., 2018). The OECD (2019) highlights the prominence of global rankings in extending the boundaries of research and knowledge generation in higher education institutions (HEIs) and the vital condition of maintaining a pool of talented doctoral and postdoctoral researchers to sustain a WCU status. Numerous countries have implemented excellence initiatives designed to establish WCUs, boost their research productivity, build up staff capacity, and raise international visibility. According to Nerad (2020), many governments seek to reform doctoral education following this agenda by enhancing quality, growing the number of PhD students, increasing completion rate, improving faculties, etc., since climbing up global rankings requires doctoral programmes of 'the highest quality'. Similarly, Salmi (2016) notes that several excellence initiatives provide additional funding to foster talent concentration, build favourable conditions, and develop attractive career prospects to doctoral candidates and early career academics and researchers (ECRs). Embedded into their excellence initiatives, several countries have reformed and strengthened various aspects of doctoral education structures, for example, (a) Japan has established Centres of Excellence with doctoral students working alongside top international researchers and launched national grants to create 'leading graduate schools' (Kitagawa and Oba, 2010); (b) Malaysia has significantly increased the number of PhD holders and provided full financial support to doctoral students (Azman et al., 2016); (c) Germany has established graduate schools (of excellence) alongside new funding schemes to stimulate research education (Bloch, 2018); and (d) China has introduced monetary incentives for doctoral supervisors and students and concentrated doctoral training provision in universities rather than research institutes (Huang, 2017; Zheng et al., 2019).

Since the 1990s, governments have substantially funded numerous initiatives to build R&D capacity for knowledge economy and incentivised highly skilled workforce production and professional skill development in research education (Nerad, 2020), including as part of excellence-driven policies. Various competitive funding schemes for training postgraduate students have been launched to improve cross-sectoral employability, introduce problem-solving approaches in education, and link it to industry, business, and local communities (Carvalho and Cardoso, 2020). The discussions underpinning knowledge society have had a significant impact on doctoral systems in terms of emphasising close links between university research and society through entrepreneurial activities, social engagement, service, etc. (Shin et al., 2018). Being no longer reserved only for producing the next generation of scholars, research education has started playing a key

role in training knowledge workforce in economically valuable and relevant fields with an emphasis on industrial development, innovation, and entrepreneurship (Shin et al., 2018; Andres et al., 2015).

To date, the relationship between excellence initiatives implemented in a state-dominated environment and doctoral education revamping has been understudied in Russia. This complex relationship is largely shaped by the government's active role in governing HE and further constructed by state policy for excellence devised to foster Russian universities' global and national competitiveness. This study seeks to examine how top-ranked Russian universities responded to the Excellence Initiatives in their institutional strategies from 2012 till 24 February 2022 and understand how they recontextualised and operationalised the notion of university excellence across doctoral education structures. As part of a doctoral research project problematising and exploring the impacts of the Excellence Initiatives on Russian doctoral education, this paper aims to analyse only the institutional strategy level and answer the following research question: *How do the institutional strategies for excellence (re-) construct doctoral education structures in relation to global trends, national priorities, and local needs in response to the Russian Excellence Initiatives?*

The Overview of the National Context

The Excellence Initiatives in Russia

In the mid-2000s, the Russian government took a course to regulate HE through launching various initiatives to support with additional state subsidies a few HEIs selected through competition and required to achieve state policy goals. Several successive initiatives were implemented from 2005 to 2010, including 'Federal University Programme' (2005), 'Innovative University Programme' (2006), and 'National Research University Programme' (2009), with the core mission to boost Russian universities' research productivity. As a profound characteristic of Russian HE, vertical stratification was reinforced further by concentrating abundant resources designated for the 'dramatically expanded system' in several 'would-be' WCUs in the early 2010s (Huisman et al., 2018; Smolentseva et al., 2018). Launched in 2013, the Russian Academic Excellence Initiative Project 5-100 (5-100 Project) aimed to support 21 Russian universities with a strong international academic reputation, propel at least five out of them into the top 100 global rankings by 2020, and maximise their competitive position in the global research and education market (5-100 Project b , 2022). The share of PhD students in these universities out of all doctoral students in Russia was over 40% (Maloshonok and Terentev, 2019).

After the termination of 5-100 Project in 2020, its next iteration was launched in 2021 with a new title 'the Priority 2030 Strategic Academic Leadership Programme' (Priority 2030). Being 'the most ambitious project in the country's history in terms of university development support' (https://www.minobrnauki.gov.ru/press-center/news/?ELEMENT_ID=34099), its ultimate goal was 'to form a large group of universities that will become the leaders in creating new scientific knowledge, technology, and developments for introduction into the economy and social sphere in

Russia' by 2030 (Priority 2030b, 2022). Over 100 HEIs were selected and divided into two tracks—'Research Leadership' with universities tasked to conduct breakthrough research, create innovation and technology, and build human capacity for the R&D sector and 'Territorial and/or Sector-Specific Leadership' designated to accelerate the socio-economic development of regions and strengthen human capital for national economy and social spheres (ibid). The participating HEIs are estimated to enrol over 50% of all doctoral students in Russia (ibid.).

The excellence-driven policy is conceptualised as a performance- and competition-based reform implemented by the government to encourage participating universities to become more productive in attaining state goals. These universities 'are expected to compete intensely for additional resources based on predetermined performance objectives established by the state. In this kind of performance-based system, the responsibility for improvement rests with individual institutions and departments' (Alexander, 2000, 426). Drawing on Ball (1993), this policy for excellence with its associated governmental documents is also seen as 'textual interventions into practice' of universities, particularly through setting various policy goals and target indicators, as illustrated below.

Numerous studies analyse various effects of the Russian excellence-driven initiatives on different university activities: research publication outputs (Turko et al., 2016); publication outputs and collaboration patterns (Matveeva et al., 2021); (inter-)national and cross-sectoral collaborations (Matveeva and Ferligoj, 2020); faculty contract arrangements and centres of excellence (Dezhina, 2020); the spillover effects of 5-100 universities on regional non-participants (Lovakov et al., 2021); funding principles and academic performance evaluation (Dezhina and Efimova, 2022); governance system and organisational culture (Oleksiyenko, 2021), etc. The impacts of excellence-driven schemes on research education have largely been understudied in Russia. More recent studies explore various aspects of doctoral education across universities with special statuses, including doctoral students' admission procedures (Zhuchkova, 2022) and the redistribution of doctoral students towards leading Russian HEIs (Zhuchkova and Bekova, 2023).

Doctoral Education

After major reforms, Russian doctoral education and degree awarding structures still maintain some features of the Soviet system (Yudkevich et al., 2020), which were developed consistent with the German model rooted in Humboldt's educational ideal. Russia has a two-level system of training academics/researchers (*aspirantura* and *doktorantura*) with a two-level system of scientific degrees (Candidate of Sciences and Doctor of Sciences degrees respectively). This study uses the term 'doctoral education' interchangeably with 'doctoral training', 'PhD', 'research education', and '*aspirantura'* which lead to the Candidate of Sciences degree (sustained from the Soviet system) and/or to an emerging Doctor of Philosophy degree (aligned with international standards), whereas '*doktorantura'* is excluded since it does not involve any coursework or research training components which are of interest to this research. There are three main types of organisations providing doctoral training,

including HEIs, research institutes, and educational organisations for continuous professional education (Government 2122, 2021), with the former training 87% of all PhDs (Indicators, 2023). The duration of doctoral programmes ranges from 3 to 5 years depending on the mode (full-time or part-time) and the field of disciplines. Along with state-funded scholarships, there are two more funding schemes available, employer-sponsored studies (*tselevoye obucheniye*) and tuition fee-based places. Only full-time PhD students are entitled to state-funded stipends (amounting from 40 to 90 US dollars (Government 1390, 2016)) alongside other state support mechanisms (e.g. Presidential scholarships (to study abroad) and grants, Government scholarships, etc.).

Policy Change

Between 2012 and 2022, Russian research education underwent multiple reforms associated with a new doctoral model, attestation system reforms, and toughened doctoral degree requirements. A fundamental change was marked by the shift towards doctoral training as the third cycle of higher education under the revised law 'On Education' (2012) pursuing a modernisation and quality agenda. Following the harmonisation with the Bologna Process, structured doctoral programmes were introduced and accompanied by an increase in educational workload and change in PhD outcomes with no mandatory thesis defence (Ministry 1259, 2013). This transition was coupled with various problems ranging from no additional state financial support and human resources to sustain this shift towards a new model to the lack of overdue reforms in the science system (Bednyi, 2017; Terentev and Bednyi, 2020). Though this reform reflected global trends, in 2021 the government revised the state regulation on doctoral training (Government 2122, 2021) resuming an obligatory preliminary defence as a PhD programme requirement and consequently marked a shift towards a more research-intensive format of doctoral education and training.

The government's agenda to enhance quality in doctoral training led to further attestation system reforms, particularly in dissertation production supervised by the Higher Attestation Committee (HAC) and the model diversification of awarding doctoral degrees. The revised regulation on awarding academic degrees (Government 842, 2013) sought to reduce the number of dissertation committees and HEIs eligible to award doctoral degrees by tightening requirements for universities and faculty, which instead of anticipated academic degree concentration in research-intensive HEIs resulted in decreased defences (almost by half) and intensified bureaucratic burden (Guba et al., 2020). Since 2016, over 30 leading universities and research institutes have been granted the right to award their own academic degrees and establish dissertation committees independently of the HAC (Government 1792, 2017). This greater procedural autonomy granted to several (autonomous) universities reflects the shift towards universities' regulation of doctoral training and attestation as an alternative model to the Soviet system supervised by the HAC, widely debated in Russia (e.g. Kobzar and Roshchin, 2020; Gusev and Yurevich, 2021).

Another measure to enhance quality in research education became a further toughening of doctoral degree requirements by raising publication minimum from

one to two or three (in STEM and Social Sciences/Humanities respectively) in dissertation committees run by the HAC (Government 842, 2013). In 2019, the revised national publication regulation required at least one paper in international journals indexed in Scopus or Web of Science (HAC, 2019), with some autonomous universities requiring up to three publications for defending a traditional monograph-based thesis.

Conceptual and Theoretical Framework

To problematise the complex relationship between the Excellence Initiatives and doctoral education revamping, Norman Fairclough's Critical Discourse Analysis (CDA) (2003, 2013; Chouliaraki and Fairclough, 1999) was adopted as 'explanatory critique' and critical inquiry where theory and methodology are inherently interconnected. CDA as an approach in qualitative research allows to engage systematically with a dialectical relationship between language and social structure, i.e. to scrutinise the links between language as discourse and broader social, economic, and political structures (Wodak and Meyer, 2009). CDA's research agenda focuses on how discourse is both constitutive and constituted by contemporary social change (especially associated with 'new capitalism', 'neo-liberalism', and 'globalisation') and has an interest in critique (relations of power, domination, and hegemony) (Chouliaraki and Fairclough, 2010). This CDA represents a part of a doctoral project employing Fairclough's explanatory critique and revolves around problematising the relationship under investigation and tracing change in doctoral education at the level of institutional strategies for excellence.

Informed by critical realism (Sayer, 2000) as an ontological orientation, the CDA seeks to analyse the discursive and non-discursive aspects of change within doctoral structures under excellence-driven schemes. Although Newman (2020) questions to what extent the discursive may be differentiated from the extra-discursive of social reality, this distinction was treated as analytical rather than empirical (Jørgensen and Phillips, 2002). Drawing on Chouliaraki and Fairclough (1999), discourse refers to 'semiotic elements of social practices', while *a* discourse as to 'a particular perspective on these various forms of semiosis—it sees them as moments of social practices in their articulation with other non-discursive moments' (38). The four moments of practice suggested by these scholars are used 'as a helpful way of analytically dividing the complexity of the social world': (1) material activity (physical acts); (2) social relations; (3) processes; (4) mental phenomena (meaning, values, etc.).

Two analytical lenses, recontextualisation and operationalisation, complemented this framework to examine institutional strategies which recontextualise global and local discourses across/within dominant fields and scales and operationalise them into new structures, practices, relations, etc. Recontextualisation examines how particular discourses become dominant or hegemonic and their dissemination across and within structural boundaries (social fields) and scalar boundaries (global, national, and local scales) (Fairclough, 2013). Concerned with relations between/within discourses and other social elements, operationalisation enables to analyse how and subject to what conditions discourses are

enacted in changed ways (practices) of acting and interacting, inculcated in changed ways of being (identities), and materialised in changed material reality (ibid.).

To draw the interconnection between excellence initiatives and universities' intentions behind doctoral education enhancement, this CDA was further informed by Salmi's (2009) and Altbach and Salmi's (2011) works on the global phenomenon of WCUs and their emerging characteristics. As observed by Salmi (2009), one of the 'defining factors of excellence' for international research-intensive universities, often perceived as WCUs, is the emphasis on graduate students. He explains that WCUs 'tend to have a high proportion of carefully selected graduate students […], reflecting their strength in research and the fact that graduate students are closely involved in the research activities of these institutions' (ibid., 21). Salmi and Altbach (2011) maintain that WCUs are considered highly selective including by 'growing their graduate numbers compared with the undergraduate enrollment'. Thus, the concentration of doctoral researchers alongside other talents (Master's students and faculty members) appears to be a critical condition aligned with two other sets of factors, abundant resources and favourable governance, in a bid to establish WCUs.

As an additional theoretical lens, Nerad's work (2020) was adopted to explore how external and internal forces behind governmental policies for globalisation, innovation, and international competitiveness impact the ongoing change in doctoral education structures in light of global trends, national development, and local dynamics. Particularly, Nerad (2020) examines the effects of governmental innovation policies and globalisation strategies on doctoral education at the macro (national and regional HE) and micro (local universities and doctoral programmes) levels and provides a framework summarised below:

Macro-level impacts (p. 51)	Micro-level impacts (p. 61)
Increasing the number and diversity of student bodies; Offering a variety of PhD programmes, e.g. the growth in professional doctorates; Changing a doctoral curriculum to highlight workforce preparedness and develop translational (applied) research and skills, thereby affecting the mode of research produced and linking university closer to society; Building human capital through state funding and competitive schemes; Ensuring greater accountability in doctoral education through increased output data collection; Developing global communication and international networks; Providing state support for returning PhD holders and postdocs.	Introducing structured doctoral programmes to enable doctoral students to graduate within an assigned period and undertake professional development training; Shifting a supervision paradigm from the master-apprentice to a multi-level (supervision team) model; Changing QA in doctoral programmes along a business QA model and shifting control to programme and university leaders; Using English as a medium of instruction in doctoral education and training; Making admissions more selective, shortening degree programmes length, and offering three-year funding; Developing career planning as part of doctoral programmes and university career centres; Diversifying the forms of doctoral degrees and formats of dissertations; Establishing new organisational structures in the form of graduate schools/graduate divisions or university-wide units for ECRs.

Methods and Data Analysis

Qualitative data used in this study were collected as part of the doctoral research project exploring the impacts of the Russian Excellence Initiatives on doctoral education enhancement between 2012 and 2022. Within the research project, seven Russian top-ranked universities (Appendix A) were selected based on theoretical sampling (to investigate the relationship under study) with three defined inclusion criteria, such as (1) *participation* in both 5-100 Project and Priority 2030, (2) *(relative) institutional autonomy* through research degree awarding powers granted by the government, and (3) *abundant funding* which the selected HEIs enjoy in Tier 1 with its highest amount of state funding allocated through the initiatives. The major caveat of this sample strategy is the inclusion of Sechenov University legitimised by the fact that it was the only medical university fulfilling the first two criteria, although falling under Tier 2 both in 5-100 Project and Priority 2030. Additionally, top-ranked universities were defined as being ranked both in global rankings and by the Russian government under the three tiers of the Excellence Initiatives. The sample of seven top-ranked universities can further be theorised as 'centres of excellence in terms of new, productive models of doctoral training in Russia', since 'these top universities contribute to the development of doctoral education, attracting students of other universities to their doctoral programmes' (Kobzar and Roshchin, 2020, 134).

Documentary research (Bowen, 2009; Tight, 2019) was adopted to answer the research question since institutional documents can be an insightful source of evidence to access universities' meaning-making and strategic decision-making for analysing policy implementation processes and further provide a means of tracking and comparing change and development across multiple sites. As part of project data collection, various state policies, governmental website texts, and mass media articles associated with the Excellence Initiatives and Russia's doctoral education system were gathered alongside university strategic documents and institutional policies for doctoral training. Documentary research was applied to a corpus of institutional strategies for excellence (Appendix A) and analysed in conjunction with supplementary documents related to state policy for excellence, governmental website texts, and various institutional strategic documents. By employing purposive sampling, 14 strategic documents were selected across the seven universities and drawn into the corpus following the defined inclusion criteria: (a) *data of publication*—between 2012 and 2022; (b) *relevance*—institutional strategic texts containing details around 5-100 Project and/or Priority 2030 and change in doctoral education structures; (c) *access*—only publicly available texts accessed through Internet searches; and (d) *consistency*—various types of texts are consistently present and available across all the seven universities to enable systematic analysis. Consequently, implementation reports were excluded from the corpus given the lack of consistency through all the programme stages across several selected universities, although they were largely used as supplementary documents to inform analysis. In turn, the emphasis on institutional strategies only in the corpus may impose certain limitations on the interpretations

of findings, since they do not reflect previous or exiting processes and practices in doctoral education structures, which will be addressed in further research. For the purposes of this study, these strategies are conceptualised as 'imaginaries for change' (Fairclough, 2013) in doctoral education structures as well as roadmaps with planned activities co-funded by government and universities.

All the documents were stored and inductively coded in NVivo with all the quotations representing change in doctoral education tabulated and analysed in a separate Excel file. The qualitative analysis was largely influenced by Miles and Haberman's (1994) guiding principles (i.e. data reduction, data display, drawing and verifying conclusions) and Saldaña's (2013) approaches to coding, including 'theming the data' and applying 'descriptive' coding at the initial analysis stage alongside 'process' and 'focus' coding at later stages. The documentary data were coded and analysed mainly in Russian, while quotations which most effectively explicated and illustrated emerging processes, mechanisms, and practices were selected for presentation purposes, translated by the researcher into English, and later validated by another bilingual researcher to ensure translation accuracy as conceptual/cultural equivalence.

Findings

The Construction of Policy-Driven Change in the State Policy for Excellence

Based on data analysis, this discursive change in doctoral education is constructed in state policy for excellence as '*sovershenstvovaniye'* rendered as 'enhancement' (e.g. Government 211, 2013; Government 729, 2021) and 'improvement' (5-100 Project a, 2022), which resonates with one of the conceptions of excellence—a process of constant improvement and continuous development. This word '*sovershenstvovaniye'* is commonly used in state policy language mostly in the form of a noun which indicates the process of 'nominalization' (Fairclough, 2005) as a common feature in Russian state documents. This notion of 'enhancement' is applied in state policy for excellence mainly in relation to doctoral education, except for one mention of 'the enhancement of university management' (Government 2006, 2012). In addition to adopting the same notion of 'enhancement' as policy-driven change, all the selected universities tend to embrace and embed various state policy ideas and target performance indicators into their institutional strategies for excellence and further realign them with state policy goals.

Regarding 5-100 Project, doctoral education appears as part of 'university staff capacity building target' within the state action plan (Government 2006, 2012; Government 211, 2013) for developing globally competitive Russian HEIs. Academic staff capacity comes along with forming 'a personnel pool for the university management/leadership', boosting the 'attraction and recruitment of young academics', and developing '(inter-) national academic mobility programmes among faculty members' (Government 2006, 2012). Precisely, one of the state goals requires 'the development and implementation of measures to enhance the activities of *aspirantura* and *doktorantura*, including the formation of an effective mechanism for attracting

and retaining young researchers at universities participating in the events [of 5-100 Project]' (Government 2006, 2012, 8; Government 211, 2013, 5). In these key texts related to 5-100 Project, there is not any clear-cut explanation why the enhancement of doctoral education activities has been declared among the state action plan activities. Considering the high level of intertextuality in Russian state policy and adopting Fairclough's (1992) concept of coherence, the main driving forces are claimed to be responses to harmonisation with the Bologna Process, global competitiveness enhancement, and the issues associated with the pipeline of faculty/research staff in the HE sector. Additionally, these texts contain various target performance indicators and metrics associated with doctoral studies for the universities to be met and reported, e.g. the total number of full-time doctoral students; the average number of research assistants; the percentage of international students (including doctoral researchers); the share of Master's and doctoral students with a Bachelor's, Specialist, or Master's degree from other organisations in the total number of postgraduate students (at least 30%); the share of full-time doctoral students receiving support (at least 10%), etc. (Government 2006, 2012; Ministry AP-166/02, 2015; Ministry AP-853/02 (2016) as cited in HSE Report (2016)).

The Priority 2030 documents are anchored in four various state strategies of national development with a significant emphasis on aligning all universities activities with national development priorities, specifically alongside the innovation-based and socially oriented type of economic development (Government 729, 2021). One of declared goals in Priority 2030 is to 'integrat[e] the educational process and science, technology, and innovation in the activity of universities' and 'develop the best practices in scientific research, innovation, and education' (Priority 2030a, 2022). The initiative documents specify a particular type of activities in relation to doctoral training improvement: 'the implementation of measures to enhance research activities in Master's studies, *aspirantura,* and *doktorantura*' (Government 729, 2021, 4). In contrast to 5-100 Project, the focus in Priority 2030 is almost equally shifted and distributed between Master's and doctoral students, which reflects the state goal of mobilising all relevant human resources in research and innovation activities. Drawing on Fairclough's (1992) concepts of intertextuality and coherence for interpretation, this state goal within Priority 2030 is claimed to be shaped by concerns from professional and academic communities over mitigating lingering issues in HE and science, including a declining number of researchers, a low completion rate, a decreasing number of doctoral degrees awarded, etc. Thus, this policy-driven change of 'the enhancement of research activities' in postgraduate studies may be interpreted as further mobilisation and training of researchers in priority areas for S&T development to address the shortage of R&D personnel in the HE, science, industry, and corporate sectors, and generally, increase the number of highly qualified personnel ('the innovation potential of development' (Strategy 1662, 2008)), framed under the knowledge-based economy imperative. In addition to this policy goal, the Priority 2030 documents enclose various target performance indicators to be met by the universities, including the share of researchers aged under 39 in the total number of researchers; the share of Master's, doctoral, medical residency, and graduate assistantship students in the total number of full-time students; the share of international students in full-time Master's, doctoral, medical residency, and graduate

assistantship programmes; and the share of employer-sponsored students (including doctoral researchers) in the total number of students (Ministry 432, 2021; Government 729, 2021).

The Recontextualisation and Operationalisation of University Excellence in Doctoral Education Structures

A. 5-100 Strategies

The excerpts of institutional texts (Table 1) were gathered only from the 5-100 universities' strategies for excellence officially titled *Programmes for Competitiveness Enhancement* (hereafter 5-100 strategies). The state goals set by the Ministry of Science and Higher Education (Ministry) only indicate the direction for the 5-100 strategies without providing further guidelines, which reflects Ball's idea (1993, 12) that 'policies do not normally tell you what to do; they create circumstances in which the range of options […] are narrowed or changed'. It is therefore upon the universities to interpret these state goals, operationalise them in terms of tasks, mechanisms, or performance indicators, and eventually enact them. For instance, several universities also introduced additional target KPIs associated with doctoral education, such as the ratio of number of Master's and doctoral degree graduates to the number of Bachelor's and Specialist degree graduates (ITMO 5-100, 2013); the share of enrolled full-time Master's and doctoral students in the total number of students enrolled full-time (HSE 5-100, 2013); the share of Master's and doctoral students in the total number of students (MISiS 5-100, 2013); the share of Bachelor's, Master's, and doctoral students involved on a paid basis in innovation and research activities (MEPhI 5-100, 2013). The analysis below mainly focuses on the central policy goal associated with doctoral education enhancement, though the strategies seek to address all the state policy goals. Table 1 displays how this policy goal was operationalised in the selected universities' roadmaps and provides the summary of emerging processes and mechanisms shaped up under 5-100 Project. Different processes within doctoral training structures were also analysed in relation to other supplementary policy goals encompassing doctoral studies and synthesised in Table 4 (Appendix B).

Most emerging processes cut across global dimension of university activities which highlights a key overarching objective of 5-100 Project: 'the internationalization in all spheres, development of infrastructure to recruit the best scientists, faculty, managers, and students' and 'bringing the university educational programs in line with the best international examples' (5-100 Project a , 2022). These processes simultaneously reflect wider social practices, including increasing research performance in top-ranked universities and emphasising quality assurance mechanisms to align with international standards and practices. If compared against Nerad's framework (2020), several peculiarities can be singled out within doctoral education structures regarding 5-100 Project.

Nerad mentions greater accountability in doctoral education and an increase in output data collection, which can widely be seen as strengthening performance

Table 1 Operationalisation strategy: emerging processes and mechanisms in response to 5-100 Project

The central state policy goal in 5-100 Project associated with doctoral education enhancement: 'The development and implementation of measures to enhance the activities of *aspirantura* and *doktorantura*, including the formation of an effective mechanism for attracting and retaining young faculty and research personnel at universities participating in the events [of this Project 5-100]' (Government 2006, 2012, 8)

Operationalisation strategy: emerging processes (based on mechanisms)	Institutional objectives	Mechanisms (actions, events, or measures—non-exhaustive)
1. Incentivising doctoral supervisors and PhD candidates to increase efficiency in doctoral studies	Incentivising doctoral supervisors and co-supervisors (consultants) to provide high-quality training to doctoral students is an institutional objective:	the creation of a funding mechanism for stimulating doctoral supervisors is a mechanism (*MIPT*).
	Stimulating faculty members to supervise doctoral students:	the development of the systems to improve the efficiency of doctoral research and incentivise doctoral supervisors to increase their supervisees' efficiency (*MISiS*).
	Incentivising doctoral students to defend their theses on time:	the creation of a funding mechanism for stimulating doctoral candidates (*MIPT*).
2. Launching 'academic aspirantura' as full-time research-intensive doctoral programmes	The implementation of 'academic aspirantura':	the analysis of exiting practices, the creation of 'academic aspirantura', the development of educational component (courses) for doctoral programmes (*MISiS*).
	The promotion of the model of 'academic aspirantura' (the analogue of structured PhD programmes (like in the USA):	- the foundation of graduate schools and the development of educational programmes in partnership with leading international HEIs; - the attraction/recruitment of top researchers for teaching, co-supervising PhD students, and evaluating doctoral progress through research seminars; - the creation of a series of preprints of PhD students' research papers in English (*HSE*).
	The enhancement of doctoral studies:	the introduction of 'full-time' doctoral studies, including the formation of grant support for PhD students studying on a full-time basis to create favourable conditions for doctoral students to effectively focus on their research and educational activities (*Sechenov*).

Table 1 (continued)

The central state policy goal in 5-100 Project associated with doctoral education enhancement: 'The development and implementation of measures to enhance the activities of *aspirantura* and *doktorantura*, including the formation of an effective mechanism for attracting and retaining young faculty and research personnel at universities participating in the events [of this Project 5-100]' (Government 2006, 2012, 8)

Operationalisation strategy: emerging processes (based on mechanisms)	Institutional objectives	Mechanisms (actions, events, or measures—non-exhaustive)
3. Bolstering academic mobility for doctoral students through exchange/internship programmes (including to improve the quality of doctoral studies at home)	Enhancing the quality of doctoral students' training through the creation of a system of research internships (exchanges) during thesis preparation:	- the working out a list of leading universities and research institutes to send to doctoral students for carrying out internships or exchange programmes; - the creation of a system to select candidates and monitor their progress and the effectiveness of these training programmes (*ITMO*).
	The enhancement of doctoral studies:	the implementation of doctoral exchange programmes in the form of research internships to partner universities on PhD thesis topics to increase the quality and integration of doctoral students into the international research community (*Sechenov*).
	The promotion of the model of 'academic aspirantura':	the organisation of research internships for doctoral students in the world's leading HEIs, ensuring the quality of PhD students, stimulating the creation of a pool for those entering graduate school through launching integrated programmes 'Master's - doctoral studies', holding research seminars, summer and winter schools (*HSE*).

Table 1 (continued)

The central state policy goal in 5-100 Project associated with doctoral education enhancement: 'The development and implementation of measures to enhance the activities of *aspirantura* and *doktorantura*, including the formation of an effective mechanism for attracting and retaining young faculty and research personnel at universities participating in the events [of this Project 5-100]' (Government 2006, 2012, 8)

Operationalisation strategy: emerging processes (based on mechanisms)	Institutional objectives	Mechanisms (actions, events, or measures—non-exhaustive)
4. Implementing various practices to internationalise doctoral studies at home	The implementation of double degree doctoral programmes:	the creation of regulation (legal) documentation and the agreement signing with leading international universities and research institutes, the development of doctoral (training) programmes and defence organisation for double degree programmes, alongside the introduction of monitoring, evaluation and control systems over the progress of PhD students (*ITMO*).
	The increase in the number of both international and Russian doctoral students and attracting top international researchers into (co-)supervision, and the transition to a new system of PhD candidate attestation that meets international standards/practices:	raising the MEPhI brand awareness, the development of research infrastructure and joint research projects with international research institutions (*MEPhI*).
5. Requiring doctoral students to publish academic papers in international journals indexed by WoS and Scopus databases	The increase in the number of publications, indexed in the Web of Science and Scopus databases, produced by doctoral students and their supervisors:	the provision of advanced training to doctoral students, including language skills, involvement in international research activities, internships, and participation in international conferences (*MEPhI*).
	The enhancement of doctoral studies:	revising the selection procedures and increasing the requirements for doctoral studies to improve the quality and productivity of PhD students' research activities, including by introducing a mandatory requirement for publications in international journals indexed by Web of Science or Scopus to gain permission to thesis defences (*Sechenov*).

Table 1 (continued)

The central state policy goal in 5-100 Project associated with doctoral education enhancement: 'The development and implementation of measures to enhance the activities of *aspirantura* and *doktorantura*, including the formation of an effective mechanism for attracting and retaining young faculty and research personnel at universities participating in the events [of this Project 5-100]' (Government 2006, 2012, 8)

Operationalisation strategy: emerging processes (based on mechanisms)	Institutional objectives	Mechanisms (actions, events, or measures—non-exhaustive)
6. Integrating doctoral studies to fulfil the university's strategic end, e.g. the stimulation of the university's international and cross-sectoral networking, partnership, and infrastructure	The transformation of doctoral studies:	- the internationalisation of PhD studies to meet the university development priority areas; - the boosting of networking (communication/activities) with leading foreign/Russian universities, research institutes, and innovative companies; - employer-sponsored doctoral studies for the needs of innovative companies focused on global competitiveness in the field of improving the quality of life and society (*TSU*).

Source: Compiled and translated by the author

assessment and sharing responsibility for PhD students' progress. In addition to engaging in output data collection, further administrative control is encouraged to monitor PhDs' progress through 'the creation of a system to select candidates and monitor their progress and the effectiveness of these training programmes' or 'the introduction of a system for monitoring, evaluation, and control over PhD students' progress' (ITMO 5-100, 2013). The discourse of efficiency in doctoral education brings some additional mechanisms with it in Russia, e.g. stimulating and incentivising doctoral supervisors with funding from 5-100 Project 'to provide high quality training to doctoral students' and 'to increase their supervisees' efficiency' along with incentivising 'doctoral students to defend their theses on time', thereby recontextualising research incentives and adopting them to improve doctoral students' performance and time-to-degree. The involvement of university and/or programme administrators is attributed to the change towards structured doctoral programmes under the Bologna Process and shared responsibility for PhDs' progress together with academic staff. Similarly, Nerad specifies a shift from a supervision paradigm from the master-apprentice to a multi-level (supervision team) model which is barely mentioned in the 5-100 strategies. Instead, they largely discuss the development of co-supervision structures, e.g. (inter-)national, cross-sectoral, or multidisciplinary supervision teams, and its mechanisms to raise efficiency through research seminars, progress evaluation, pre-defences, etc. The formalisation of doctoral supervision becomes more prominent within Priority 2030—for example, amid a growing number of PhD students and an increasing shortage of doctoral supervisors, ITMO University implements a revised institutional policy to regulate the rights and obligations of doctoral supervisors alongside monetary funds to incentivise them (ITMO Report, 2021).

In comparison with other Russian universities overseen by the HAC, the requirements for mandatory publications appear to be tougher across the selected universities, in some disciplines reaching up to three publications in international journals indexed in Scopus and Web of Science databases for a monograph-based thesis route. In the 5-100 strategies, these publication requirements are emphasised and legitimised as the 'improve[ment of] quality and productivity of PhD students' research activities' (Sechenov 5-100, 2015). Doctoral publishing is often constructed as a mechanism to ensure quality of doctoral research which is normalised within state policy due to its Soviet history and toughened across the autonomous universities. Furthermore, doctoral students are represented as ECRs whose publication activity becomes further shaped in line with the discourses and practices of research excellence: 'Task—the increase in the number of publications indexed in the Web of Science and Scopus databases, produced by *aspirants* and *doktorants* and their academic supervisors; Mechanisms—the provision of advanced training to doctoral students, including language skills, involvement in international research activities, internships, and participation in international conferences' (MEPhI 5-100, 2013, 32-33).

Another emerging process reflecting global pressures in Russian HE is absent in Nerad's framework owing to its contextually contingent nature. Particularly, postdoctoral fellowships or postdoctoral positions started appearing in leading Russian HEIs shortly after the launch of 5-100 Project as evidenced by word searches on

institutional websites and strategies (Table 4 in Appendix B). Whereas in Priority 2030 they become institutionalised with several universities developing support structures for this academic position new to Russian academia (Table 2). In the 5-100 strategies, the word 'postdoc' is almost absent and sometimes referred to as 'PhD graduates' ('*vypuskniki aspirantury (Postdocs)'* in MISiS, HSE, and MEPhI) since there was not any direct equivalent in the Russian academic career framework. This emerging practice of establishing postdoctoral fellowships is embedded within broader social practices, such as accumulating researchers at HEIs, professionalising international recruitment of doctoral students and postdocs, and harmonising the academic career framework in top-ranked universities with international academic market rules.

The diversification of research degrees and the possibility of obtaining Doctor of Philosophy degrees at a limited number of universities is another instance of global pressures. While having more institutional autonomy than other Russian HEIs, some of the seven universities have opted for designing doctoral programmes with English as a medium of instruction and thesis together with awarding Doctor of Philosophy degrees aligned with international standards. The process of degree diversification has therefore started shaping as two different research-intensive degrees—one with integral elements adopted from the Soviet model and the other one with numerous aspects of an international PhD model, with the former dominating in Russian HE.

B. Priority 2030 Strategies

Like the 5-100 strategies, the *Development Programmes* as titled formally in Priority 2030 (hereafter Priority 2030 *strategies*) have a similar structure of documents, i.e. as recommended in a template approved by the Ministry. These Priority 2030 strategies closely follow a list of predetermined state policy goals which participating universities further interpret and operationalise into various strategic projects, internal institutional policies, and implementation plans with target indicators. Only textual pieces containing the discursive elements of operationalisation (including clear-cut institutional objectives, mechanisms, and outcomes) were collected and further analysed. One central policy goal related to the enhancement of research activities within doctoral education structures is displayed in Table 2, while other supplementary policy goals with their associated emerging processes are synthesised in Table 5 (Appendix C). Indeed, some instances were challenging to disentangle and assign them to one particular goal, since there is a lot of overlap among the state policy goals in Priority 2030.

All the selected universities follow the 'Research leadership' track under Priority 2030 implying that one of its priority goals is 'the building up of staff capacity in the R&D sector' (Ministry 432, 2021). The analysed research activities considerably overlap with R&D activities which are widely present among the emerging processes linked to a separate state policy goal 'the involvement of students in R&D and (or) innovation work and (or) socially oriented projects'. In addition to research enhancement, other emerging processes are further synthesised (Table 5 in Appendix C) to capture various aspects of policy-driven change in doctoral training under Priority 2030.

Table 2 Operationalisation strategy: emerging processes and mechanisms in response to Priority 2030

The central state policy goal in Priority 2030 2030a, b associated with research education enhancement: 'The enhancement of measures to improve research activities in Master's studies, *aspirantura,* and *doktorantura*' (Government 729, 2021, 4)

Operationalisation strategy: emerging processes (based on mechanisms)	Institutional objectives	Mechanisms (actions, events, or measure—non-exhaustive)
1. Enhancing universities' own PhD degrees, improving the academic reputation of research degrees, increasing doctoral training efficiency	Following the planned strategic projects, activities will be implemented to develop key research resources, support and form new innovative and entrepreneurial activities, and develop an innovative ecosystem:	the development of a system for awarding own research degrees and increasing the number of defences among doctoral graduates, including among faculty staff (*MEPhI*).
	The increase of competitiveness by attracting talented prospective students from other international universities:	[…] the improvement of the academic reputation of research degrees awarded at MIPT (*MIPT*).
	The growth of research and project-oriented components in the educational process.	measures to transform doctoral studies (the awarding of own scientific degrees; the implementation of research model tracks 'Master's - doctorate' and 'residency - doctorate' (*Sechenov*).
2. Increasing financial support for doctoral students through doctoral scholarships or grants and aligning them with an average salary	The development of doctoral studies is based on:	the increase of doctoral financial support amount (not lower than the average salary in the region) ['with a salary not less than 65% of the average salary in the region'] (*HSE*).
	The growth of research and project-oriented components in the educational process.	the payment of a PhD scholarship in the amount of the average salary in the region for the entire period of doctoral research (*Sechenov*).

Table 2 (continued)

The central state policy goal in Priority 2030 2030a, b associated with research education enhancement: 'The enhancement of measures to improve research activities in Master's studies, *aspirantura,* and *doktorantura*' (Government 729, 2021, 4)

Operationalisation strategy: emerging processes (based on mechanisms)	Institutional objectives	Mechanisms (actions, events, or measure—non-exhaustive)
3. Enhancing doctoral programme quality through emphasising its relevance to multiple stakeholders, stressing employability, and developing generic/transferable skills	The increase of competitiveness by attracting talented prospective students from other universities in the world:	the improvement of the quality and relevance of educational process in doctoral training (programme), the development of competencies and motivation in doctoral students to defend theses on time and effectively build a career in scientific or innovation fields […] (*MIPT*).
	The provision of continuous professional development together with key partners. A particular attention will be paid to Master's and doctoral programmes focused on training young scientists in new interdisciplinary areas of research:	new network (modular) Master's and doctoral programmes will be designed together with partners with the aim of 'targeted' training of personnel for experiments at mega science facilities […]. Postgraduate qualification works will be reoriented towards solving real-world research and innovation tasks set by the University's scientific and industrial partners (*MEPhI*).
4. Emphasising project-based approaches in doctoral training and project-related activities in doctoral curricula	The development of staffing in priority areas of Russian economy and the formation of competencies necessary for working in knowledge-based economy	through encouraging expert support for the implementation of competency-based education (PBL) at the Master's and doctoral levels with activities to involve students in research and innovation activities (*ITMO*).
	The goal of the educational policy of Sechenov University by 2030 is to form a qualitatively new graduate.	- the comprehensive involvement of students in R&D carried out based on research protocols; - the development of digital and entrepreneurial competencies in students; - the individualisation of student's educational trajectory based on digital footprints; - the priority development of educational programmes in Masters', residency, and doctoral studies (*Sechenov*).

Table 2 (continued)

The central state policy goal in Priority 2030 2030a, b associated with research education enhancement: 'The enhancement of measures to improve research activities in Master's studies, *aspirantura,* and *doktorantura*' (Government 729, 2021, 4)

Operationalisation strategy: emerging processes (based on mechanisms)	Institutional objectives	Mechanisms (actions, events, or measure—non-exhaustive)
5. Involving consortium, industrial, high-tech partners into PhD educational processes (doctoral curricula, internships, co-supervision, etc.); incentivising doctoral students to cooperate with external partners	The staffing of research activities through the pipeline of PI:	- the organisation of R&D work offered to Master's and doctoral students by the university together with industrial partners; - strengthening employers' institutional participation in doctoral training through the development of mechanisms to involve industrial partners into supervising doctoral students and the enhancement of PhD supervision structure (*ITMO*).
	The role of the Phystech-2030 consortium […]:	the development of strategies to modernise and create new Master's and PhD educational programmes through considering the consortium stakeholders' request as key employers (*MIPT*).
	More than 40% of funds will be allocated to human resource development which will support	the creation of conditions for retaining ECRs through a system of competitions and grants supporting initiatives and projects, improving (doctoral) students' academic mobility, attracting leading scientists, experts and entrepreneurs to participate in educational, research, innovation processes and university management (*TSU*).

Table 2 (continued)

The central state policy goal in Priority 2030 2030a, b associated with research education enhancement: 'The enhancement of measures to improve research activities in Master's studies, *aspirantura,* and *doktorantura*' (Government 729, 2021, 4)

Operationalisation strategy: emerging processes (based on mechanisms)	Institutional objectives	Mechanisms (actions, events, or measure—non-exhaustive)
6. Bifurcating educational tracks and creating research-intensive paths both in Master's and doctoral studies; actively involving postgraduate students into research	The development of doctoral studies is based on:	the development of partnerships with regional universities for researcher training (research staff) (by 2030, the share of Master's students on the research track is 30%, the efficiency of doctoral studies is 30%) (*HSE*).
	The support for ECRs through various opportunities to involve students in real-world research activities will be expanded by including them not only into university projects, but also with strategic partners, primarily new consortia, and international collaborations:	measures to support research teams and students' projects (including doctoral students and graduates) by allocating grants for research and internships. Within individual educational trajectories, separate tracks will be offered to students with research achievements, which will involve strengthening research components, broadening the options for independent choice, flexibility, integration, and embedding educational programmes into a research project (*MEPhI*).

Table 2 (continued)

The central state policy goal in Priority 2030 2030a, b associated with research education enhancement: 'The enhancement of measures to improve research activities in Master's studies, *aspirantura,* and *doktorantura*' (Government 729, 2021, 4)

Operationalisation strategy: emerging processes (based on mechanisms)	Institutional objectives	Mechanisms (actions, events, or measure—non-exhaustive)
7. Involving doctoral (and other) students into R&D activities, strengthening technological commercialisation and entrepreneurial skills training in doctoral curricula, improving postgraduate students' employability in R&D	To ensure the required number of performers at all levels, […] 'Formation of scientific and entrepreneurial potential' will be implemented while ensuring conditions for the concentration of talented youth, advanced researchers, and entrepreneurs:	- to involve students in research and entrepreneurial projects, a case-space 'Sechenov Young Scientist & Entrepreneur, SYSE' will be created […]; - he number of graduate students will be increased (up to 1,100), the level of research and entrepreneurial competencies in doctoral students and 400 young faculty members will be improved through theoretical and practical activities, including intensive courses, master classes, and internal grants (*Sechenov*).
	The creation of entrepreneurial culture and the involvement of students into research projects:	-it is necessary to develop technology commercialisation skills in doctoral students; - the university introduces some educational components of entrepreneurial skill training in all the university curricula and expands the pool of internships to high-tech companies and start-ups for all students and ECRs (*MISiS*).
	The staffing of research activities through the pipeline of PI:	- rnsuring the systematic development of research, scientific, industrial placements and internships; - developing employer-sponsored doctoral programmes; - introducing a compulsory component of doctoral training in the format of project-based internships (up to 1 year) in leading research groups and global companies (*ITMO*).

Source: Compiled and translated by the author

Following Nerad's point on a diverse student body, doctoral education as constructed in state policy and institutional strategies manifests little diversity, since full-time studies appear to discursively dominate professional and public discussions around research education. All the selected universities have formally stopped recruiting part-time doctoral students based on statistical data available on the Monitoring of Russian HEIs' Performance (Monitoring, 2022). It can also be attributed to state scholarships and grants available only to full-time PhDs and to the perceived idea of receiving the most favourable conditions only while studying full-time. However, a monthly state stipend is dramatically low, thereby forcing all the categories of PhDs to work inside or outside universities. Precisely, 90% of all Russian doctoral students combine PhD studies with full- or part-time work (Bekova and Dzhafarova, 2019). The discourse of 'supporting' students and ECRs is widely present in state policies and institutional strategies (Tables 4 and 5). It encompasses the discussions of establishing state and institutional scholarship funds, including financial mechanisms (institutional doctoral grant contracts for top achievers under obligation to defend on time, academic mobility grants, incentives for high-quality doctoral publications, etc.), and non-financial support (the improvement of university support services and studying/living conditions, the delivery of career development services to postgraduates, etc.). Regarding PhD students, this 'support' is often constructed and operationalised through creating teaching and research job positions to support them financially with remunerations. In fact, this discourse does not entail offering the best or most relevant possible support for individuals, rather selectively and exclusively supports top-performers who match the current definition of excellent doctoral students. Hence, 'academic tracks' are created within doctoral studies or graduate schools with a limited number of high achievers on full state and institutional scholarships, well-integrated into research teams and labs, and with various opportunities to secure extra funding through R&D projects with universities' external partners. This bifurcation process can be seen as a mechanism to optimise and concentrate funding and human resources within research-intensive tracks across graduate schools or doctoral studies.

The idea of improving universities' academic and international reputation permeates the 5-100 strategies and becomes recontextualised in the Priority 2030 strategies in relation to academic degree activities in the form of 'the improvement of the academic reputation of awarded research degrees'. Due to the long-standing tradition of separated doctoral training and research degree attestation, these autonomous universities resort to reputational mechanisms to ensure the quality and prestige of their research degrees. As observed in their strategies, several universities (HSE, ITMO, TSU, and MISiS) started enhancing their research degrees at the final stage of 5-100 Project through revising their PhD defence procedures, establishing dissertation committees, internationalising doctoral programmes, and raising doctoral research quality. By contrast, the other universities (MIPT, MEPhI, and Sechenov) made it a priority only during Priority 2030 through 'improving their academic reputation' or 'branding universities' own doctoral degrees' with the aim to 'improve the quality and relevance of educational processes in doctoral training' and 'attract talents from other university worldwide'. Thus, the discourse of reputation becomes recontextualised in the field of doctoral education as a strategy to enhance

the overall performance and attractiveness of doctoral programmes in the (inter-) national educational markets.

Numerous examples of Nerad's point on the development of global communication and international networks can be traced across the 5-100 strategies, e.g. PhD exchange programmes, publishing in international journal, or double degree doctoral programmes. This trend has further been recontextualised in Priority 2030 through alternative collaboration mechanisms including strengthening communication with other stakeholders and new partners at national and local levels (e.g. consortia as cross-sector collaboration, cooperation with regional universities, or continuous professional education for local labour markets). For instance, MIPT actively involves Phystech-2030 Consortium members to design joint Master's and PhD programmes by integrating new courses based on their 'accumulated strong educational competencies' and considering their needs as key employers (MIPT Priority 2030, 2022). Using cross-sector partnerships as a mechanism, postgraduate programmes become more market sensitive, reinforce a doctoral curriculum change in line with workforce preparedness, and develop translational (applied) research and skill (Nerad, 2020). Indeed, the professionalisation and adoption of corporate educational approaches to doctoral training may have broader implications for academia and knowledge production in terms of the inculcation of particular cultural values, identities, social relations, and pedagogies. However, regardless the involvement of multiple stakeholders and the growing diversity of doctoral programme formats, doctoral outcomes still remain academic and research-intensive, as there have not been any professional doctorates introduced in Russia yet due to its rigid legislation framework (Bednyi et al., 2021).

Discussion and Conclusion

The findings presented above show that policy-driven change in doctoral education structures is constructed and operationalised as 'enhancement' in the institutional strategies in response to the Excellence Initiatives. The analysed emerging processes are primarily driven by several mechanisms, including internationalisation, research enhancement, quality assurance, performance-based funding support, human capital development, and network mechanisms. Not all these processes are new to the Russian doctoral education system, though they all have largely been understood and recontextualised with the prevalence of neoliberal social imaginary and its semantics, which needs to be further investigated. Being shaped as normative and performative enhancement to become more globally competitive, this excellence-inspired change in research education takes the form of continuous institutional improvement, a horizon of predefined goals and measured outcomes, and ever rising (inter-)national standards. Furthermore, the meanings acquired behind this notion of enhancement (Table 3) are simultaneously recontextualised and linked to the political, economic, and socio-cultural environment of particular historical moments.

Indeed, the institutional strategies appear to shape doctoral education structures according to the dominant understandings of university excellence constructed by each of the Excellence Initiatives. For example, the 5-100 strategies emphasise

Table 3 Different aspects of the universities' meaning-making behind 'the enhancement' in doctoral education structures

'Enhancement' in 5-100 Project	'Enhancement' in Priority 2030
Creating 'favorable conditions' within full-time tracks and/or graduate schools for top PhD performers	Improving quality in doctoral curricula and training by emphasising their relevance to society
Toughening publication requirements for doctoral students to enhance doctoral research quality	Increasing the efficiency of doctoral research and training to increase the number of PhD holders
Improving the internationalisation of doctoral studies to raise the quality of doctoral research and theses	Improving the academic reputation and 'brand' of research degrees awarded by the autonomous universities
Increasing accountability and research performance in doctoral education (including by stimulating doctoral supervisors)	Involving various stakeholders to contribute to the improvement of different aspects and activities within doctoral training
Integrating PhDs into international research activities through research journals, networks, and groups	Diversifying financial schemes to stimulate research activities among doctoral students

Source: The author

the discourses and practices of internationalisation and quality assurance in doctoral training and research drawing on the international notions of university excellence (global competitiveness, global rankings, international standards, etc.). These notions are still observed to a certain extent in the Priority 2030 strategies, although the focus shifts towards meeting national economic goals, increasing research and innovation components in doctoral training, and aligning its relevance to society and university partners. These strategies therefore reflect the national notions of university excellence as innovation development and social relevance by rescaling and tightening research activities within doctoral education structures to national priorities and local (including institutional) needs.

Yet, the conclusions drawn on the suggested conceptual and theoretical framework are not without difficulties. First, the use of critical realism as an ontological orientation is limited only to the discussion of emerging processes, mechanisms, practices, and meanings instead of the clearly detailed set of entities, properties, causal mechanisms, etc., as criticised by Vincent and O'Mahoney (2018). It can be attributed to the prevalence of official institutional strategies and state policy texts in the analysed data, thereby representing only official narratives. Thus, the analysis of excellence-driven change is limited predominantly to the 'instrumental perspective' (Olsen, 2007) of the top-ranked Russian universities and to the imaginaries of state policymakers and university leaders. Second, Nerad's framework (2020) exploring the macro- and micro-level impacts of governmental policies on doctoral education worldwide may lack the necessary explanatory factors in relation to Russian research education bound by its local conditions and historical development. Third, mainly one research method has been employed in the study which may limit the accounts of changes reducing them only to those observed through institutional strategies; it will be addressed in further research by examining the relationship and change across multiple analysis levels and with different data sources.

Nevertheless, several considerations for policy can be suggested: (1) if these emerging mechanisms and practices in doctoral training at these top-ranked universities can be scaled up and promoted across the national HE system with its diversity and without significant state financial support and institutional autonomy; (2) if they equally benefit research students across all the disciplines and types of universities, including specialised ones in social sciences, humanities, pedagogical sciences, etc.; (3) how the overemphasis on publication activities affects PhD students' identity, career trajectory development, and generally knowledge production in academia; (4) and how the concentration of doctoral training capacity in leading Russian universities impacts doctoral education enhancement across regional universities.

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Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

References

Alexander, F.K. (2000) The changing face of accountability: monitoring and assessing institutional performance in higher education. *The Journal of Higher Education 71*(4): 411–431. https://doi.org/10.1080/00221546.2000.11778843

Altbach, P. G. and Salmi, J. (2011) *The road to academic excellence: The making of world-class research universities*: World Bank Publications.

Andres, L., Bengtsen, S. S., del Pilar Gallego Castaño, L., Crossouard, B., Keefer, J. M. and Pyhältö, K. (2015) 'Drivers and Interpretations of Doctoral Education Today: National Comparisons', *Frontline Learning Research* 3(3) 5–22. https://doi.org/10.14786/flr.v3i3.177.

Azman, N., Sirat, M. and Pang, V. (2016) Managing and mobilising talent in Malaysia: Issues, challenges and policy implications for Malaysian universities. *Journal of Higher Education Policy and Management 38*(3): 316–332. https://doi.org/10.1080/1360080X.2016.1174406

Ball, S.J. (1993) 'What is policy? *Texts, Trajectories and Toolboxes', Discourse: Studies in the Cultural Politics of Education 13*(2): 10–17. https://doi.org/10.1080/0159630930130203

Bao, Y., Kehm, B.M. and Ma, Y. (2018) From product to process. The reform of doctoral education in Europe and China. *Studies in Higher Education 43*(3): 524–541. https://doi.org/10.1080/03075079.2016.1182481

Bednyi, B.I. (2017) 'Novaya model' aspirantury: pro et contra' ['A New Postgraduate School Model: Pro et Contra'], *Vysshee obrazovanie v Rossii = Higher Education in Russia* 4(211) 5–16.

Bednyi, B. I., Bekova, S. K., Rybakov, N. V., Terentev, E. A. and Khodeeva, N. A. (2021) 'Professional'naya aspirantura: mezhdunarodnyy opyt i rossiyskiy kontekst' ['Professional Doctorates: International Experience and Russian Context'], *Vysshee Obrazovanie v Rossii = Higher Education in Russia* 30(10): 9–21.https://doi.org/10.31992/0869-3617-2021-30-10-9-21.

Bekova, S. and Dzhafarova, Z. (2019) Who is happy at doctoral programs: the connection between employment and learning outcomes of PhD students. *Voprosy Obrazovaniya/Educational Studies Moscow 1*(3): 87–108. https://doi.org/10.17323/1814-9545-2019-1-87-108

Bloch, R. (2018) 'Stratification without producing elites? The emergence of a new field of doctoral education in Germany', in R. Bloch, A. Mitterle, C. Paradeise and T. Peter (eds). *Universities and the Production of Elites:* Springer International Publishing, pp. 299-324. https://doi.org/10.1007/978-3-319-53970-6_13.

Bowen, G.A. (2009) Document Analysis as a Qualitative Research Method. *Qualitative Research Journal 9*(2): 27–40. https://doi.org/10.3316/QRJ0902027

Carvalho, T. and Cardoso, S. (2020) 'Conclusion: the transformations in doctoral education—a comprehensive and critical approach', S. Cardoso, O. Tavares, C. Sin and T. Carvalho (eds). *Structural and Institutional Transformations in Doctoral Education:* Springer International Publishing, pp. 375–389. https://doi.org/10.1007/978-3-030-38046-5.

Chouliaraki, L. and Fairclough, N. (1999) *Discourse in late modernity: Rethinking critical discourse analysis*: Edinburgh university press.

Chouliaraki, L. and Fairclough, N. (2010) Critical discourse analysis in organizational studies: towards an integrationist methodology. *Journal of Management Studies 47*(6): 1213–1218. https://doi.org/10.1111/j.1467-6486.2009.00883.x

Dezhina, I. G. (2020) 'Nauchnaya politika v vedushchikh rossiyskikh universitetakh: effekty «novogo menedzherializma»' ['Research policy in leading Russian Universities: Effects of «New Management»'], *Universitetskoe upravlenie: praktika I analiz = University Management: Practice and Analysis* 24(3) 13–26. https://doi.org/10.15826/umpa.2020.03.023.

Dezhina, I. G. and Efimova, G. Z. (2022) 'Riski Proyekta 5-100: otsenki nauchno-pedagogicheskikh rabotnikov razlichnykh pokoleniy' ['Risks of 5-100 Project: Perceptions of Academic Staff of Different Ages'], *Vysshee Obrazovanie v Rossii = Higher Education in Russia* 31(3) 28–39. https://doi.org/10.31992/0869-3617-2022-31-3-28-39.

Fairclough, N. (1992) Intertextuality in critical discourse analysis. *Linguistics and Education 4*: 269–293

Fairclough, N. (2003) *Analysing Discourse: Textual Analysis for Social Research: Routledge.* https://doi.org/10.4324/9780203697078

Fairclough, N. (2005) Peripheral vision: discourse analysis in organization studies: the case for critical realism. *Organization Studies 26*(6): 915–939. https://doi.org/10.1177/0170840605054610

Fairclough, N. (2013) *Critical discourse analysis: The critical study of language*. Routledge.

Government 211 (2013) *O merakh gosudarstvennoy podderzhki vedushchikh universitetov Rossiyskoy Federatsii v tselyakh povysheniya ikh konkurentosposobnosti sredi vedushchikh mirovykh nauchno-obrazovatel'nykh tsentrov [On measures to support Russian leading universities to enhance their competitiveness among global research and education centre]*. Decree of the Government of the Russian Federation, 16 March, http://government.ru/docs/9988/, accessed 15 Novemb 2023.

Government 729 (2021) *O merakh po realizatsii programmy strategicheskogo akademicheskogo liderstva "Prioritet-2030" [On measures to implement the Priority 2030 Programme]*. Decree of the Government of the Russian Federation, 13 May, http://publication.pravo.gov.ru/Document/View/0001202105210040, accessed 15 Novemb 2023.

Government 842 (2013) *O poryadke prisuzhdeniya uchenykh stepeney [On procedure for awarding academic degrees]*. Regulation of the Government of the Russian Federation, 24 September, https://base.garant.ru/70461216/, accessed 15 Novemb 2023.

Government 1390 (2016) *O formirovanii stipendial'nogo fonda [On formation of scholarship fund]*. Resolution of the Government of the Russian Federation, 12 December, https://base.garant.ru/71570302/, accessed 15 Novemb 2023.

Government 1792 (2017) *Perechen' nauchnykh organizatsiy i obrazovatel'nykh organizatsiy vysshego obrazovaniya, kotorym predostavlyayutsya prava, predusmotrennyye abzatsami vtorym - chetvertym punkta 31 stat'i 4 Federal'nogo zakona "O nauke i gosudarstvennoy nauchno-tekhnicheskoy politike" [The list of research institutes and higher education institutions which are granted with the rights specified in paragraphs 2 - 4 of clause 31 in Article 4 of the Federal Law "On Science and State Scientific and Technological Policy"]*. Resolution of the Government of the Russian Federation, 23 August, https://legalacts.ru/doc/rasporjazhenie-pravitelstva-rf-ot-26012023-n-154-r-o-vnesenii/, accessed 15 Novemb 2023.

Government 2006 (2012) *Ob utverzhdenii plana meropriyatiy po razvitiyu vedushchikh universitetov, predusmatrivayushchikh povysheniye ikh konkurentosposobnosti sredi vedushchikh mirovykh nauchno-obrazovatel'nykh tsentrov [On approval of the action plan for the development of leading*

universities devised for increasing their competitiveness among leading international research and educational centers]. Decree of the Government of the Russian Federation, 29 October, https://base.garant.ru/70250350/, accessed 15 Novemb 2023.

Government 2122 (2021) *Ob utverzhdenii polozheniya o podgotovke nauchnykh i nauchno-pedagogicheskikh kadrov v aspiranture [On approval of the regulation on the training of scientific and academic personnel in aspirantura]*. Resolution of the Government of the Russian Federation, 30 November, http://publication.pravo.gov.ru/Document/View/0001202111300127, accessed 15 Novemb 2023.

Guba K, Sokolov M. and Sokolova N. (2020) 'Dinamika dissertatsionnoy industrii v Rossii: 2005–2015 gg. Izmenil li novyy instituysionalnyy trafaret akademicheskoe povedenie?' ['The Dynamics of Dissertation Industry in Russia, 2005–2015. Did New Institutional Templates Change Academic Behavior?'], *Journal of Economic Sociology = Ekonomicheskaya sotsiologiya* 21(3): 13–46. doi:https://doi.org/10.17323/1726-32472020-3-13-46.

Gusev, A.B. and Yurevich, M.A. (2021) *Russian research policy - 2021 [Nauchnaya politika Rossii-2021]*. Report, http://www.onr-russia.ru/sites/default/files/socopros_scipol2021s.pdf, accessed 20 November 2023.

HAC (2019) *Novyye podkhody k normativno-pravovomu regulirovaniyu sistemy attestatsii nauchnykh kadrov vysshey kvalifikatsii v Rossiyskoy Federatsii [New approaches to the legal and regulatory framework within the attestation system of research personnel in the Russian Federation]*. Higher Attestation Committee, 26 June, https://base.garant.ru/73440189/, accessed 15 Novemb 2023.

HSE Report (2016) *O realizatsii plana meropriyatiy po realizatsii programmy povysheniya konkurentosposobnosti («dorozhnoy karty») federal'nogo gosudarstvennogo avtonomnogo obrazovatel'nogo uchrezhdeniya vysshego obrazovaniya «Natsional'nyy issledovatel'skiy universitet «Vysshaya shkola ekonomiki» na 2013-2020 gody (2 etap – 2015-2016 gody) [On implementation of the Action Plan for implementing the competitiveness enhancement programme ("roadmap") of the federal state autonomous educational institution of higher education "National Research University "Higher School of Economics" for 2013-2020 (stage 2 - 2015-2016)]*. HSE report, https://www.hse.ru/data/2017/04/07/1168296668/02-%D0%9F%D1%80%D0%B8%D0%BB%D0%BE%D0%B6%D0%B5%D0%BD%D0%B8%D0%B5%20%D0%BA%20%D0%9E%D1%82%D1%87%D0%B5%D1%82%D1%83%20%D0%BE%20%D0%B4%D0%B5%D1%8F%D1%82%D0%B5%D0%BB%D1%8C%D0%BD%D0%BE%D1%81%D1%82%D0%B8%20(%D1%80%D0%B5%D0%B7%D1%83%D0%BB%D1%8C%D1%82%D0%B0%D1%82%D1%8B%205-100)%202016.pdf , accessed 15 Novemb 2023.

Huang, F. (2017) *From the former Soviet patterns towards the US model? Changes in Chinese doctoral education*, Centre for Global Higher Education Working Paper 12, https://www.researchcghe.org/perch/resources/publications/wp12.pdf, accessed 20 Novemb 2023.

Huisman, J., Smolentseva, A. and Froumin, I. (2018) *25 Years of Transformations of Higher Education Systems in Post-Soviet Countries: Reform and Continuity:* Springer International Publishing. doi.org/https://doi.org/10.1007/978-3-319-52980-6.

Indicators (2023) *Science and Technology Indicators in the Russian Federation 2023: Data Book* https://www.hse.ru/data/2023/08/29/2056610775/Science_and_Technology_Indicators_2023_EN.pdf, accessed 15 Novembre 2023.

ITMO Report (2021) *O rezultatakh realizatsii programmy razvitiya universiteta v ramkakh realizatsii programmy strategicheskogo akademicheskogo liderstva «Prioritet-2030» v 2021 godu [On results of the implementation of the university development programme as part of implementing the Strategic Academic Leadership Programme "Priority 2030" in 2021].* Annual Report, https://disk.yandex.ru/i/7Zn6iJTV9i_meg, accessed 15 Novembre 2023.

Jørgensen, M. and Phillips, L. (2002) *Discourse Analysis as Theory and Method: SAGE Publications Ltd.* https://doi.org/10.4135/9781849208871

Kitagawa, F. and Oba, J. (2010) Managing differentiation of higher education system in Japan: Connecting excellence and diversity. *Higher Education 59*: 507–524. https://doi.org/10.1007/s10734-009-9262-5

Kobzar, E. and Roshchin, S. (2020) 'Russian doctoral education', in M. Yudkevich, P. G. Altbach, H. de Wit and V. Rudakov (eds). *Trends and issues in doctoral education: A global perspective*: SAGE Publications Pvt Ltd, pp. 127–151. https://doi.org/10.4135/9789353885991.

Lovakov, A., Panova, A., Sterligov, I. and Yudkevich, M. (2021) Does government support of a few leading universities have a broader impact on the higher education system? Evaluation of the

Russian university excellence Initiative. *Research Evaluation 30*(3): 240–255. https://doi.org/10.1093/reseval/rvab006

Maloshonok, N. and Terentev, E. (2019) National barriers to the completion of doctoral programs at Russian universities. *Higher Education 77*: 195–211. https://doi.org/10.1007/s10734-018-0267-9

Matveeva, N. and Ferligoj, A. (2020) Scientific collaboration in Russian universities before and after the excellence initiative Project 5–100. *Scientometrics 124*: 2383–2407. https://doi.org/10.1007/s11192-020-03602-6

Matveeva, N., Sterligov, I. and Yudkevich, M. (2021) The effect of Russian University Excellence Initiative on publications and collaboration patterns. *Journal of Informetrics 15*(1): 1–17. https://doi.org/10.1016/j.joi.2020.101110

Miles, M. B. and Huberman, A. M. (1994) *Qualitative data analysis: An expanded sourcebook*: Sage.

Ministry AP-166/02 (2015) *Perechen trebovaniy k otchetam po realizatsii planov meropriyatiy po realizatsii vuzami, otobrannymi po rezul'tatam konkursa na predostavleniye gosudarstvennoy podderzhki vedushchim universitetam Rossiyskoy Federatsii v tselyakh povysheniya ikh konkurentosposobnosti sredi vedushchikh mirovykh nauchno-obrazovatel'nykh tsentrov, programm povysheniya konkurentosposobnosti («dorozhnykh kart») [The list of requirements to report on the implementation of action plans for the implementation by universities selected based on the results of a competition to provide state support to leading universities of the Russian Federation in order to increase their competitiveness among the world's leading research and educational centers, programmes to increase competitiveness ("roadmaps")].* The list of requirements of the Ministry of Science and Higher Education, 24 February, https://5100.itmo.ru/file/pages/9/ap-166-02_perechen_trebovaniy_k_otchetam.pdf, accessed 15 Novembre 2023.

Ministry 432 (2021) *Ob utverzhdenii perechnya tselevykh pokazateley effektivnosti realizatsii programm razvitiya obrazovatelnykh organizatsiy vysshego obrazovaniya, kotorym predostavlyayetsya podderzhka v ramkakh programmy strategicheskogo akademicheskogo liderstva "Prioritet-2030", i metodik ikh rascheta [On approval of the list of target performance indicators for the implementation of development programmes, designed by the higher education institutions provided with support within the framework of the Strategic Academic Leadership Programme "Priority 2030", and methods for their calculation].* Order of the Ministry of Science and Higher Education, 31 May, http://publication.pravo.gov.ru/Document/View/0001202106230024, accessed 15 Novembre 2023.

Ministry 1259 (2013) *Ob utverzhdenii poryadka organizatsii i osushchestvleniya obrazovatel'noy deyatel'nosti po obrazovatel'nym programmam vysshego obrazovaniya - programmam podgotovki nauchno-pedagogicheskikh kadrov v aspiranture [On approval of the procedure for organising and implementing educational activities in educational programmes of higher education - programmes for training scientific and pedagogical personnel in aspirantura].* Order by the Ministry of Science and Higher Education, 19 November, https://base.garant.ru/70581484/, accessed 15 Novembre 2023.

Monitoring (2022) *Monitoring effektivnosti deyatel'nosti obrazovatel'nykh organizatsiy vysshego obrazovaniya [the Monitoring of the Efficiency of Russian Higher Education Institutions],* https://monitoring.miccedu.ru/?m=vpo, accessed 15 Novemb 2023.

MIPT Priority 2030 (2022) Programma razvitiya universiteta na 2021–2030 gody v ramkakh realizatsii programmy strategicheskogo akademicheskogo liderstva «Prioritet 2030» [University Development Programme for 2021-2030 as Part of the Implementation of the Strategic Academic Leadership 36 Programme "Priority 2030"], https://mipt.ru/priority2030/sp1/%D0%9F%D1%80%D0%BE%D0%B3%D1%80%D0%B0%D0%BC%D0%BC%D0%B0_%D1%80%D0%B0%D0%B7%D0%B2%D0%B8%D1%82%D0%B8%D1%8F_%D0%9C%D0%A4%D0%A2%D0%98_%D0%B8%D1%8E%D0%BB%D1%8C_2022.pdf, Accessed Jan 2022

Nerad, M. (2020) 'Governmental Innovation Policies, Globalisation, and Change in Doctoral Education Worldwide: Are Doctoral Programmes Converging? Trends and Tensions', in B. S. Cardoso, O. Tavares, C. Sin and T. Carvalho (eds). *Structural and Institutional Transformations in Doctoral Education:* Springer International Publishing, pp. 43–84. doi.org/https://doi.org/10.1007/978-3-030-38046-5_3.

Newman, J. (2020) Critical realism, critical discourse analysis, and the morphogenetic approach. *Journal of Critical Realism 19*(5): 433–455. https://doi.org/10.1080/14767430.2020.1758986

OECD (2019) *Education at a Glance 2019: OECD Indicators*. Organisation for Economic Co-operation and Development report, 10 September, https://www.oecd-ilibrary.org/education/education-at-a-glance-2019_f8d7880d-en, accessed 20 Novemb 2023.

Oleksiyenko, A.V. (2021) World-class universities and the Soviet legacies of administration: Integrity dilemmas in Russian higher education. *Higher Education Quarterly 76*(2): 385–398. https://doi.org/10.1111/hequ.12306

On Education (2012) 273 (2012) *Federalnyy zakon N 273-FZ 'Ob obrazovanii v Rossiyskoy Federatsii' [Federal Law N 273-FZ 'On Education in the Russian Federation']*. President of the Russian Federation, 29 December, https://www.consultant.ru/document/cons_doc_LAW_140174/, accessed 15 Novemb 2023.

Olsen, J.P. (2007) *The institutional dynamics of the European university*, Springer, Netherlands: University dynamics and European integration, Dordrecht, pp. 25–54.

Priority 2030a (2022) *The Priority 2030 Programme.* Website in English, https://priority2030.ru/en/, accessed January 2022 [the sections with the information about the Programme and its goals are no longer available online].

Priority 2030b (2022) *Prioritet 2030 [Priority 2030 Programme].* Website in Russian, https://priority2030.ru/, accessed January 2022 [the sections with the information about the priorities and goals of this Programme are no longer available online].

Saldaña, J. (2013) *The coding manual for qualitative researchers*: SAGE.

Salmi, J (2009) *The challenge of establishing world-class universities*: World Bank Publications.

Salmi, J. (2016) 'Excellence Strategies and the Creation of World-Class Universities', in N. C. Liu, Y. Cheng and Q. Wang (eds). *Matching Visibility and Performance*: SensePublishers, pp. 15–48. doi.org/https://doi.org/10.1007/978-94-6300-773-3_2.

Sayer, A. (2000) *Realism and Social Science: SAGE Publications Ltd.* https://doi.org/10.4135/9781446218730

Shin, J. C., Kehm, B. M. and Jones, G. A. (2018) *Doctoral Education for the Knowledge Society: Convergence or Divergence in National Approaches?*: Springer International Publishing. doi.org/https://doi.org/10.1007/978-3-319-89713-4.

Smolentseva, A., Froumin, I., Konstantinovskiy, D. and Lisyutkin, M. (2018) 'Stratification by the State and the Market: High Participation Higher Education in Russia', in B. Cantwell, S. Marginson and A. Smolentseva (eds). *High Participation Systems of Higher Education,* Oxford: Oxford Academic, pp. 295-333. https://doi.org/10.1093/oso/9780198828877.003.0011.

Strategy 1662 (2008) *Kontseptsiya dolgosrochnogo sotsialno-ekonomicheskogo razvitiya Rossiyskoy Federatsii na period do 2020 goda [The strategy of long-term socio-economic development of the Russian Federation for the period until 2020].* Resolution of the Government of the Russian Federation, 17 November, http://static.government.ru/media/files/aaooFKSheDLiM99HEcyrygytfmGzrnAX.pdf, accessed 15 Novembre 2023.

Terentev, E. A. and Bednyi, B. I. (2020) 'Problemy i perspektivy razvitiya rossiyskoy aspirantury: vzglyad regional'nykh universitetov' ['Problems and Prospects for the Development of Doctoral Education in Russia: The View of Regional Universities'], *Vysshee Obrazovanie v Rossii = Higher Education in Russia* 29(10): 9–28. doi.org/https://doi.org/10.31992/0869-3617-2020-29-10-9-28.

Tight, M. (2019) Documentary research in the social sciences. *SAGE Publications Ltd*. https://doi.org/10.4135/9781529716559

Turko, T., Bakhturin, G., Bagan, V., Poloskov, S. and Gudym, D. (2016) Influence of the program "5–top 100" on the publication activity of Russian universities. *Scientometrics 109*: 769–782. https://doi.org/10.1007/s11192-016-2060-9

Vincent, S. and O'Mahoney, J. (2018) 'Critical Realism and Qualitative Research: An Introductory Overview', in C. Cassell, A. Cunliffe and G. Grandy (eds). *The SAGE Handbook of Qualitative Business and Management Research Methods: History and Traditions*: SAGE Publications Ltd, pp. 201–216. doi.org/https://doi.org/10.4135/9781526430212.n13.

Wodak, R. and Meyer, M. (2009) 'Critical discourse analysis: History, agenda, theory and methodology', in R. Wodak and M. Meyer (eds). *Methods of critical discourse analysis*: SAGE, pp. 1–33.

Yudkevich, M., Altbach, P.G. and Wit, H.D. (2020) *Trends and Issues in Doctoral Education: A Global Perspective: SAGE Publications Pvt Ltd.* https://doi.org/10.4135/9789353885991

Zheng, G., Kivistö, J., Shen, W. and Cai, Y. (2019) 'Comparing Doctoral Education in China and Finland: An Institutional Logics Perspective', in H. Liu, F. Dervin and X. Du (eds). *Nordic-Chinese Intersections within Education:* Springer International Publishing, pp. 197–231. doi.org/https://doi.org/10.1007/978-3-030-28588-3_9.

Zhuchkova, S. and Bekova, S. (2023) 'Is Doctoral education not for everyone? *How the University Reforms Led to Centralization of Doctoral Programs in the Leading Universities', Voprosy Obrazovaniya/ educational Studies Moscow 1*: 109–125. https://doi.org/10.17323/1814-9545-2023-1-109-125

Zhuchkova, S. V. (2022) '*Kak ustroyen priyem v aspiranturu v rossiyskikh vuzakh*?' ['How is Doctoral Students' Admission Arranged at Russian Universities?'], *Universitetskoe upravlenie: praktika I analiz = University Management: Practice and Analysis* 26(2): 92–104. doi.org/https://doi.org/10.15826/umpa.2022.02.015.

5-100 Project a (2022) *The 5-100 Project.* Website in English, https://5top100.ru/en/, accessed January 2022 [this website is no longer available].

5-100 Project b (2022) *Proyekt 5-100 [The 5-100 Project].* Website in Russian, https://5top100.ru/, accessed January 2022 [this website is no longer available].

The corpus of institutional strategies for excellence

HSE 5-100 (2013) *Programma povysheniya konkurentosposobnosti Natsional'nogo Issledovatel'skogo Univesiteta 'Vysshaya Shkola Ekonomiki' [The Programme of Competitiveness Enhancement at National Research University 'Higher School of Economics']*, https://strategy.hse.ru/ppk_doc, accessed Jan 2022.

ITMO 5-100 (2013) *Programma povysheniya konkurentosposobnosti Natsional'nogo issledovatel'skogo univesiteta informatsionnykh tekhnologiy, mekhaniki i optiki [The Programme of Competitiveness enhancement at National Research University ITMO]*, https://5100.itmo.ru/ru/page/35/o_programme.htm, accessed Jan 2022.

MEPhI 5-100 (2013) *Programma povysheniya konkurentosposobnosti Natsional'nogo issledovatel'skogo yadernogo univesiteta 'MIFI' [The Programme of Competitiveness Enhancement at National Research Nuclear University MEPhI]*, https://old.mephi.ru/about/competitiveness/nrnu_mephi_program.pdf, accessed Jan 2022.

MISiS 5-100 (2013) *Programma povysheniya konkurentosposobnosti NITU MISiS [The Programme of Competitiveness Enhancement at NRTU MISiS]*, https://ru.readkong.com/, accessed Jan 2022 [no longer available online].

MIPT 5-100 (2013) *Programma povysheniya konkurentosposobnosti Moskovskogo fiziko-tekhnicheskogo universiteta [The Programme of Competitiveness Enhancement at Moscow Institute of Physics and Technology],* https://mipt.ru/upload/medialibrary/cb7/document.pdf, accessed Jan 2022.

Sechenov 5-100 (2016) *Plan meropriyatiy po realizatsii programmy povysheniya konkurentosposobnosti ("dorozhnaya karta") Federal'nogo gosudarstvennogo byudzhetnogo obrazovatel'nogo uchrezhdeniya vysshego obrazovaniya Pervogo Moskovskogo gosudarstvennogo meditsinskogo universiteta imeni I. M. Sechenova Ministerstva zravookhraneniya Rossiyskoy Federatsii na 2016-2020 gody [Action Plan for the Implementation of the Competitiveness Enhancement Programme ("roadmap") at I.M. Sechenov First Moscow State Medical University for 2016-2020 (stage 1 - 2016-2018)]*, https://www.sechenov.ru/science_and_innovation/, accessed Jan 2022 [no longer available online].

TSU 5-100 (2013) *Programma povysheniya konkurentosposobnosti TGU [Competitiveness Enhancement Programme at TSU]*, a digital version of a document on the official website, http://viu.tsu.ru/about/projects/, accessed Jan 2022.

HSE Priority 2030 (2021) *Development Programme (Draft Programme) of National Research University Higher School of Economics for 2021-2030* (in English), https://www.hse.ru/en/priority2030/#programme, accessed Jan 2022.

ITMO Priority 2030 (2021) *The proposal for ITMO University's Development Strategy for 2021-2030* (in English), https://itmo.ru/file/pages/171/Proposal_for_ITMO_University%E2%80%99s_Development_Strategy_for_2021-2030.pdf, accessed Jan 2022.

MEPhI Priority 2030 (2022) *Programma razvitiya universiteta na 2021–2030 gody v ramkakh realizatsii programmy strategicheskogo akademicheskogo liderstva «Prioritet 2030» [University Development Programme for 2021–2030 as Part of the Implementation of the Programme of Strategic Academic Leadership "Priority 2030"]*, https://priority2030.mephi.ru/content/public/uploads/files/programma_razvitiya_niyau_mifi_na_2021_2030_gody.pdf, accessed Jan 2022.

MISiS Priority 2030 (2021) *Programma razvitiya universiteta na 2021–2030 gody v ramkakh realizatsii programmy strategicheskogo akademicheskogo liderstva «Prioritet 2030» [University Development Programme for 2021-2030 as Part of the Implementation of the Strategic Academic Leadership Programme "Priority 2030"]*, https://misis.ru/university/prioritet-2030/#prioritet-2030-documents, accessed Jan 2022.

MIPT Priority 2030 (2022) *Programma razvitiya universiteta na 2021–2030 gody v ramkakh realizatsii programmy strategicheskogo akademicheskogo liderstva «Prioritet 2030» [University Development Programme for 2021-2030 as Part of the Implementation of the Strategic Academic Leadership Programme "Priority 2030"]*, https://mipt.ru/priority2030/sp1/%D0%9F%D1%80%D0%BE%D0%B3%D1%80%D0%B0%D0%BC%D0%BC%D0%B0_%D1%80%D0%B0%D0%B7%D0%B2%D0%B8%D1%82%D0%B8%D1%8F_%D0%9C%D0%A4%D0%A2%D0%98_%D0%B8%D1%8E-%D0%BB%D1%8C_2022.pdf, accessed Jan 2022.

Sechenov Priority 2030 (2021) *Programma razvitiya universiteta na 2021–2030 gody v ramkakh realizatsii programmy strategicheskogo akademicheskogo liderstva «Prioritet 2030» [University Development Programme for 2021-2030 as Part of the Implementation of the Strategic Academic Leadership Programme "Priority 2030"]*, https://2030.sechenov.ru/#rec380518336, accessed Jan 2022.

TSU Priority 2030 (2021) *Programma razvitiya universiteta na 2021–2030 gody v ramkakh realizatsii programmy strategicheskogo akademicheskogo liderstva «Prioritet 2030» [University Development Programme for 2021-2030 as Part of the Implementation of the Strategic Academic Leadership Programme "Priority 2030"]*, https://priority2030.tsu.ru/, accessed Jan 2022.