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19BG04 Bulgaria: A Roadmap to Teachers' Policy Development and Reform
Component I: Analytical policy review

Bulgaria Teaching Workforce Policy Note and Recommendations

Analytical report assessing teacher workforce policy outcomes and providing recommendations for improving education workforce policy and planning processes efficiency

December 4, 2020

Public Disclosure Authorized

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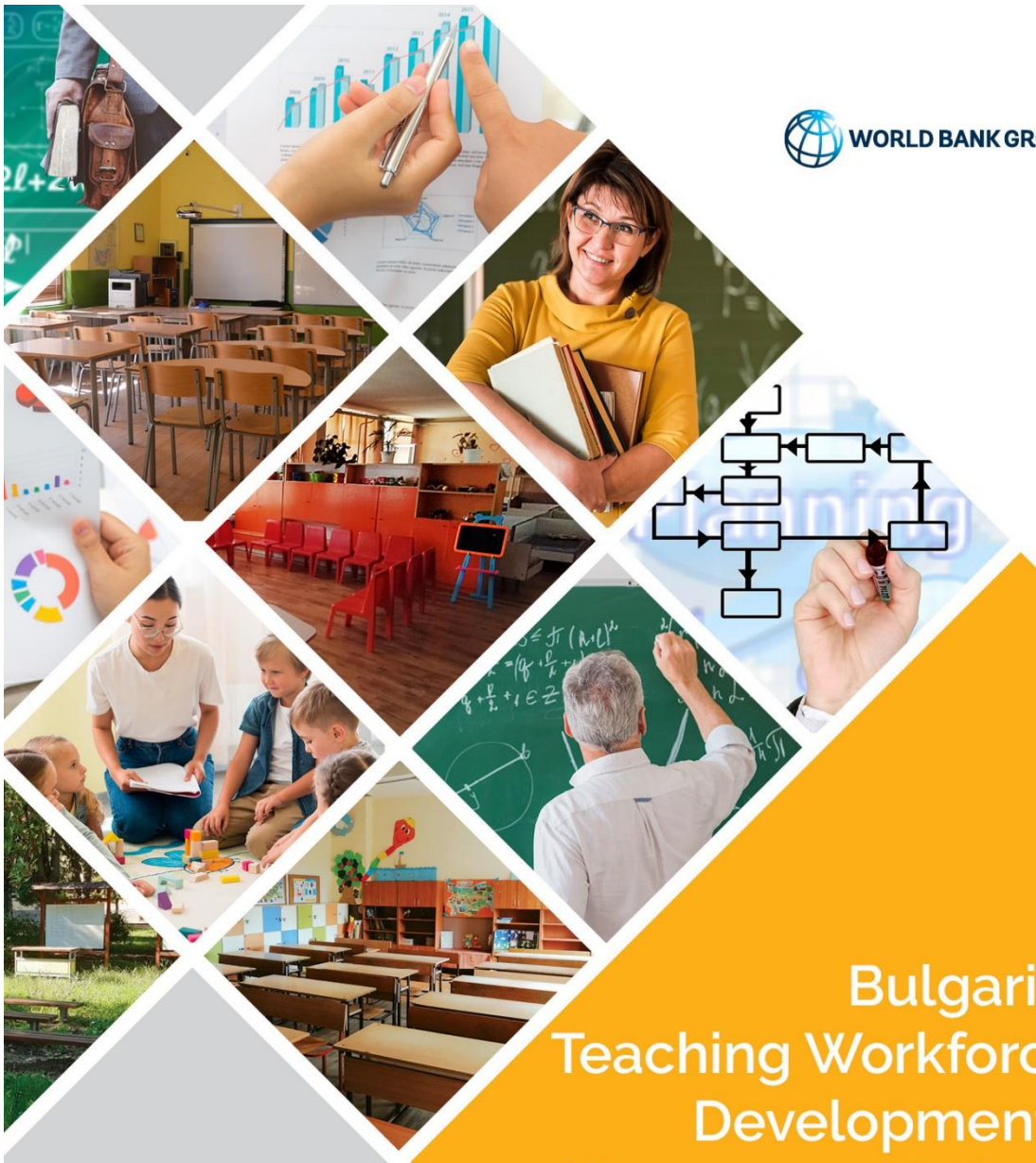

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Bulgaria: Teaching Workforce Developments and Recommendations

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ABBREVIATIONS

BURS	Bulgarian University Ranking System
CLA	Collective Labor Agreement
CoM	Council of Ministers
CPD	Continuing Professional Development
DG REFORM	Directorate General for Structural Reform Support
EC	European Commission
ECEC	Early Childhood Education and Care
ECTS	European Credit Transfer and Accumulation System
ESCS	Economic, Social, and Cultural Status
EU	European Union
GDP	Gross Domestic Product
GPA	Grade Point Average
ICCS	International Civic and Citizenship Education Study
ICSID	International Centre for Settlement of Investment Disputes
ICT	Information and Communication Technology
IEA	International Association for the Evaluation of Educational Achievement
IFC	International Finance Corporation
IRAQP	Information Register of the Approved Qualification Programmes
IT	Information Technology
ITE	Initial Teacher Education
KSAs	Knowledge, Skills, and Attitudes
MIGA	Multilateral Investment Guarantee Agency
MoER	Ministry of Education and Research
MOES	Ministry of Education and Science
MoESS	Ministry of Education, Science, and Sport
MoEYS	Ministry of Education, Youth, and Sports
NAKVIS	Quality Assurance Agency for Higher Education
NCES	National Center for Educational Statistics
NEAA	National Evaluation and Accreditation Agency
NEI	National Education Institute
NGO	Nongovernmental Organization
NIE	National Inspectorate of Education
NPDE	National Program for Development of Education
NPQH	National Professional Qualification for Headship
NSLE	National School for Leadership in Education
NSLL	National Strategy for Lifelong Learning
NSI	National Statistical Institute
NSSI	National Social Security Institute
OECD	Organisation for Economic Co-operation and Development
PIAAC	Programme for the International Assessment of Adult Competencies
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
PQ Plan	Professional Qualification Plan
PQC	Professional Qualification Credit
PQD	Professional Qualification Degree

PSSEA	Pre-school and School Education Act
QMS	Quality Management System
RDE	Regional Department of Education
SABER	Systems Approach for Better Education Results
SASS	Schools and Staffing Survey
SBM	School-based Management
SEN	Special Educational Needs
SJT	Situational Judgment Test
SRSP	Structural Reform Support Programme
STR	Student-Teacher Ratio
SVAM	School Value-Added Measurement
TALIS	Teaching and Learning International Survey
TCAT	Teacher Capability Assessment Tool
TF	Trust Fund
TIF	Teacher Incentive Fund
TIMSS	Third International Mathematics and Science Study
TPT	Teacher Policy Taskforce
TSA	Trust for Social Achievement
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UOE	UNESCO-OECD Eurostat
VET	Vocational Education and Training
ZEP/REP	Priority Education Zones/Networks (*Zones/Reseaux d'Education Prioritaire*)

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GLOSSARY

A glossary of specific terms related to teacher initial training and continuing professional development was compiled at the outset of the analytical work. The glossary indicates terminology in English used by the European Commission, the World Bank,[1] common language of education literature, and respective terminology used in Bulgarian (outlined in Bulgarian regulatory framework). The glossary was consulted with and endorsed by the Teacher Policy Taskforce in February 2020.

Term in English	English common practice language	Bulgarian normative framework equivalent	Proposed use for current project documentation
Initial teacher education/preparation	(also referred to as initial teacher training or preservice training) The formal education and practical training (provided usually in a higher education institution) resulting in obtaining formal qualification upon graduation that individuals must complete to become teachers	In the context of the Bulgarian normative framework referred to as professional qualification or acquisition of professional qualification 'teacher' (*придобиване на професионална квалификация 'учител'*) Art. 213 PSSEA and Art. 2 Ordinance on the state requirements for acquiring professional teaching qualification	Initial teacher education (*Първоначално обучение на учители*)
Alternative pathways	Refers to any routes leading to a teaching qualification apart from initial teacher education programs (see above). Usually flexible, shorter than traditional course of study, and mostly employment-based training programs which target individuals with professional experience gained inside or outside education. They are often introduced to combat teacher shortages and to attract graduates from other professional fields.	The current normative framework does not envisage alternative pathways without formal higher education institution certification for acquisition of professional qualification 'teacher'. Art. 213 (12) PSSEA; Art. 3 Ordinance 15 on the requirements for the statute and professional development of teachers, principals, and other pedagogical specialists; and Art. 4 Ordinance on state requirements for acquiring professional teaching qualification outline the possibility for principals to hire staff who are in the process of obtaining professional qualification for teaching granted that they have higher education degree in the respective subject they are to teach.[2] The Ministry of Education and Science (MOES) was a partner with Teach for Bulgaria and Plovdiv University in the implementation of	Alternative pathways (*Алтернативни пътеки*)

[1] https://op.europa.eu/en/publication-detail/-/publication/435e941e-1c3b-11e8-ac73-01aa75ed71a1/language-en; http://wbgfiles.worldbank.org/documents/hdn/ed/saber/supporting_doc/Background/WFD/Framework_SABER-WfD.pdf

[2] In the event of a teaching position occupied by a person who does not have teaching professional qualifications, the school shall draft and implement a plan for the person to acquire pedagogical competences

		an Erasmus+ project New Way for New Talents in Teaching. The project was finalized in 2019 and aimed at deriving key learnings from tested alternative pathways with the objective of attracting, selecting, training, and retaining new teachers across the school system in Bulgaria.	
(Continuing) professional development	(also referred to as in-service training) A process of improving the competences, skills, and knowledge of serving teachers to adapt to the changing environment in which education system operates. Relates also to motivation to remain in the teaching profession.	In the context of the Bulgarian normative framework referred to as enhancing the qualification of pedagogical specialists - introductory and continuing (*повишаване на квалификацията на педагогическите - специалисти - въвеждаща и продължаваща)* (Section IV Ordinance 15)	Continuing professional development (*Продължаваща квалификация на педагогическите специалисти*) To be differentiated from professional development limited to career development of teachers (Section VII Ordinance 15)
Teacher competences	Complex and dynamic combinations of knowledge, skills, understanding, values, and attitudes developed in the process of initial teacher education and continuing professional development	In the context of the Bulgarian normative framework referred to as competences in the professional profile of teachers (*компетентности в професионалния профил на учителя*) (PSSEA, Appendix 2 Ordinance 15 and curriculum)	Teacher competences (*Компетентности на учителя*)
Competences	In the context of competence-based teaching and learning	In the context of the Bulgarian normative framework referred to as competences (*компетентности*) (PSSEA and curriculum)	Competences (*Компетентности*)
Qualification	Educational qualification obtained upon graduation from a formal education and practical training program from a higher education institution resulting in acquiring a formal education degree or certificate	In the context of the Bulgarian normative framework, it refers to (a) Initial teacher education granting professional qualification 'teacher' certified by higher education institutions (*професионална квалификация 'учител'*) (Art. 213 PSSEA) (b) Continuing professional development courses granting professional qualification degrees from 1 to 5 certified by higher education institutions and linked to teacher career development (*професионално-квалификационни степени*). Resulting in obtaining professional qualification degree certificate (Ordinance 15)	(a) Initial qualification/initial teacher education (see above) (b) Continuing professional qualification (*Продължаващо професионално развитие*) (see above - option only through universities) (c) Continuing professional qualification including alternative pathways (*Продължаващо професионално развитие*) (option through alternative to universities provider)

		(c) Formal education certificates are also granted from all providers of continuing professional development courses that are different from universities and are approved by MOES (Section IV and V PSSEA)	Enhancing the qualification of teachers for professional development is provided by specialized units, higher education institutions, and science organizations (Section IV Ordinance 15).

EXECUTIVE SUMMARY

Like many European countries, Bulgaria's workforce is facing dynamic developments influenced by negative demographic trends, seasonal and long-term migration of the population both in the country and abroad, imbalanced economic development of the Bulgarian regions, learning opportunities in the country and abroad, and diverse economic developments between the sectors of economy. This context is strongly influencing the education sector with aging workforce and shrinking student population.

During the last decade, specific education workforce characteristics and system developments are marking improvement. The initial qualification of Bulgaria's education workforce has significantly improved and the share of nonqualified teachers in the system remains low. Another positive trend is the continuous growth in the number of teachers with specific professional qualification. The education system was able to maintain a balance between the decreasing student population and the management of school networks to follow that trend. All this is coming as a response to the enforcement of the national standards addressing workforce, education financial reforms,[3] and the first effects of reforms in school and preschool education initiated with the Pre-school and School Education Act (PSSEA) in 2016. One of the objectives of the new legislation is to transform public education from a strictly hierarchically organized system with centralized planning to a decentralized system with a significant transfer of autonomy and responsibilities on learning and outcomes to the educational institutions and their teams.

Still, the key challenge for school education remains the stagnant outcomes in learning. International and national assessments of student outcomes indicate that for years the education system could not produce a stable trend for improved learning outcomes. Not only do PISA results demonstrate flat trend over time, but the same scenario is also present for primary education where the share of low performers in the Progress in International Reading Literacy Study (PIRLS) is not decreasing. Overall *learning poverty*[4] of Bulgarian students remains halfway to the levels of the European Union (EU) and the Organisation for Economic Co-operation and Development (OECD) countries. This context is negatively affected by the COVID-19 crisis where school closures and distance learning alternatives are estimated to have additional negative impacts on the learning outcomes in Bulgaria—percentage of students performing below functional literacy may increase by up to 7 percentage points (from 47 percent to 54 percent).[5] Learning loss will be especially worse for disadvantaged children.

To improve learning, prevent human capital losses, and equip its population with specific competences that address local needs and development priorities, as well as address digital technology and the global economy and societal developments, Bulgaria needs to maintain reforms in education and focus its efforts to strengthen learning, competences, and promotion of active participation for learners as part of the overall development strategy for the society. The policies addressing teachers are a key factor of the reforms and development strategies where learning goals are expected to become a coherent component of human resource and professional development focus. The

[3] Smarter School Funding for Better Education Achievement in Bulgaria. World Bank 2020.

[4] Learning poverty means being unable to read and understand a short, age-appropriate text by age 10. The Human Capital Project focuses on reading because (a) reading proficiency is an easily understood measure of learning; (b) reading is a student's gateway to learning in every other area; and (c) reading proficiency can serve as a proxy for foundational learning in other subjects, in the same way that the absence of child stunting is a marker of healthy early childhood development. The Human Capital Index for Bulgaria is available at https://www.worldbank.org/en/publication/human-capital.

[5] The World Bank has estimated the effects of COVID-19-related school closures on learning outcomes for 157 countries. Simulations use data on learning outcomes and years of schooling to estimate the potential effects of school closures in general and across socioeconomic groups. More information on the World Bank's work on COVID-19 is available at https://www.worldbank.org/en/data/interactive/2020/03/24/world-bank-education-and-covid-19.

review of education workforce status and teacher policy developments outlines the following recommendations that will serve as a base for next-stage interactions with the Ministry of Education and Science (MOES) under this consultancy support addressing teacher policies.

To position learning at the heart of the educational system, an improved coherence between policy elements and approaches is needed. Bulgaria needs to integrate and synchronize its policy actions addressing teachers by focusing on two dimensions – policy approach and prioritization of core policy elements. A coordinated workforce policy approach is needed to incorporate three elements: (a) integrated, specific long-term strategy; (b) data informed policy, and (c) stakeholder involvement. The government needs to focus and prioritize key areas of interventions that will become the backbone to effective and measurable learning and teaching outcomes, and that builds upon current national trends. Based on national data evidencing development and indicators supported by international evidence, there are three core domains that education has to address coherently: teacher initial and continuing qualification, schools as organizations that are accountable for learning outcomes, and focused work on school leadership.

Workforce disbalances listed below indicate the need to develop localized policy responses and the need for special actions addressing coherently both workforce and learning outcomes. The education system in Bulgaria faces imbalanced distribution of teacher skills based on student demand, measured by Student-Teacher Ratios (STR), where variations are mostly distributed across municipalities while at regional level the STR differences are not significant. Some of the key workforce observations are:

- There is a larger proportion of teachers with higher levels of initial education in schools with higher STRs for both primary and secondary schools, as well as preschool. In addition, secondary schools have a higher proportion of teachers with high levels of initial teacher education degree levels, while preschools, unified and primary schools have a lower proportion.
- Teachers with higher pedagogical experience (and age) tend to be more concentrated in schools with higher STR, both for primary and secondary schools and preschools. Schools in medium or large size municipalities have a larger proportion of teachers with higher ITE degree levels and with PQDs and, to a lesser extent, aged teachers. Both schools and preschools with low STR ratio are behind the other groups in terms of PQD levels of workforce employed.
- Schools located in municipalities falling into education funding group eight[6]) have younger workforce with less pedagogical experience and ITE degree levels.

Policy recommendations

Operation restructuring

While the system is clearly guided by the right policies, standards, qualifications framework and institutional arrangement, the lack of checks and balances in workforce planning and management is leading to several bottlenecks that will continue to threaten the education system such as shortages, unbalanced distribution of qualifications across of schools, extra expenses, aging workforce, and most importantly - learning outcomes. For this we recommend:

[6] Grouping of municipalities according to Ordinance for financing of institutions in the preschool and school education system of 2018.

1. Reengineer the supply-demand process assessment aiming at stability and responsiveness within a programmatic process to ensure proper planning at all levels down to the school.
2. Promote culture of evaluation to ensure that policies and actions are working in managing the supply and demand balance.
3. Strengthen the regulatory framework and implementation processes to ensure universities are producing not only the required quantities but also the needed qualities of future teachers. This entails steps like:
    - Revisit the initial teacher education programs at universities to ensure proper qualifications and motivations of teaching workforce, curriculum and pedagogical models used. It is important to ensure competence-based teaching and learning to address existing challenges and needs for changing teaching styles, classroom practices and tracking student progress.
    - A thorough certification process should ensure that ITE graduates have the necessary content knowledge and a set minimum level of pedagogical experience. This can only be achieved if the professors of future teachers are selected via a competitive merit-based approach, that teacher training programs and pedagogical departments are subject to high regulatory standards and that the requirements to enter ITE programs (for students) are high.
    - Ensure a selection process of students into the teaching programs based on interest, ability, motivation, charisma, etc. For this it is important to review the processes of attracting candidates to the ITE programs, the filtering and nurturing activities, and ensuring predictive paths toward success in the teaching profession;
    - Revisit the graduation requirements for teachers from ITE programs based not only on course completion, but also on acquiring foundational competencies, practical experiences, etc.;
    - Improve the level of interaction and coordination efforts between schools and ITE programs;
4. Ensure active role of the relevant units at the MOES to monitor workforce supply and act on the demand for teachers. This includes effectiveness of the supply out of the initial teacher education programs at higher education to guide and support the hiring processes to ensure efficient distribution of qualifications. The current model of introducing the online marketplace is a step in the right direction however it needs to be part of a comprehensive mechanisms to help select teachers and ensure evidence-based distribution;
5. Revisit the current approach for continuing professional development to eliminate fragmentation and ensure the value added in terms of student and teacher learning. While MOES has undertaken significant changes in governance and standardization of processes including provision of professional qualification degrees (PQDs) and credits (PQCs), the regulations for monitoring professional qualifications and CPD are misaligned to ensure results. The number of eligible higher education institutions and in-service training providers has been expanded but the regulations do not address a key challenge in ensuring the content and teaching methods employed to impact pedagogical practices. It is recommended that key amendments be addressed to ensure a stronger framework that is based on:
    - Diagnostics of current needs at the group and individual levels. This will include assessment of teachers' competencies and matching it with student learning; evaluating results after completion of training and following up with teachers to ensure mastery of training objectives; understanding what is working and what is not in relation to training curriculum and pedagogical practices;

- Incorporating professional development data into a teacher profile that is always evaluated to monitor improvements, competencies, experience and effectiveness.
- Integrating all relevant activities (ITE, CPD, mentoring, inspection, etc.) to complement each other and ensure the link with the results on the ground.

6. Enforce an induction period in the hiring processes as there is a steep learning curve during the first three years of teacher's careers. It is important to implement and monitor a pairing process of new teachers with more experienced ones and then evaluate teachers at the end of a probation period to corroborate that they have not only content knowledge, but also the needed pedagogical competences.

School leaders are the engine for a stronger workforce and special focus is needed to:

7. Design and implement a robust school leadership selection system capable of identifying candidates with the necessary skills and experience to be effective school leaders.
8. Provide more support and development opportunities to school principals to become effective managers of the workforce for improving results. Given the importance of school principals in student learning outcomes, particularly in highly decentralized systems like Bulgaria, the selection, professional development and evaluation of school principals are very important. Recommendations in this area could be more explicit about the type of skills that help principals increase student's learning: performing classroom observations to provide feedback to teachers on strategies to improve their pedagogical approaches, and using standardized test results and other measures of student performance to guide instruction and professional development for teachers.
9. Strengthening the school principal's ability to operationalize quality assurance and evaluation at schools to strengthen the profiles of teachers/staff and ensure the achievement of the desired learning outcomes. It is very important for school principals to be able to (a) identify teachers that are below minimum standards, (b) improve the effectiveness of teacher professional development by tailoring training to areas of poor performance identify by the evaluation, (c) recognizing good teachers and pair well performing teachers with not-so-good performers, assign well performing teachers to tutoring or mentoring responsibilities, and (d) ultimately help aligning teacher policies and practices with student learning.
10. Given the strong role of the trade union in the management of workforce, it is important to involve them in helping in the school improvement process as well.

Evidence-based workforce policy and decisions

Decisions are not always tested and evaluated to ensure that the best approach for implementation is planned. For this we recommend to:

1. Establish a workforce planning unit to collect regular data, conduct analysis and research to propose policy advice to ensure supply-demand balance, proper evaluations of options, analyzing trends, monitoring indicators and conducting projections.
2. Establish mechanisms to assess competencies of current workforce, especially teaching staff, in relation to:
   - Mastery of foundational skills including content knowledge and digital and communication competences.
   - Classroom behaviors and pedagogical skills.

- Morale, motivation and satisfaction.
- Effect on student learning.
- Peer relationships and effect on school performance.
- Relationship with other colleagues, management and parents.

3. Participate in international efforts, such as PIACC, measuring foundational competencies of education workforce relative to other professions.
4. Ensure proper metrics for professional development programs to guarantee expected outcomes: mastery of new skills, increased self-confidence, improved interactions and reflection on student outcomes.
5. Strengthen universities capacity to research what matters most to improve quality of graduates. Universities need to follow up with student-teachers during study, practicing in the field, and in the initial period entering the education system as teachers at schools.
6. Conduct surveys and field visits to identify 'real needs' at schools.
7. The planning process is traditional due to lack of a system to utilize available data for decision making. It is important for the system to be able to pull together needed detailed data to conduct analysis of human resource dynamics to identify trends such as: teachers coming to or moving to another school, outflow of teachers from the profession to retirement or to other professions, including outside of public service, etc. or analysis by subject level. For this purpose, we recommend a human resources module in the education management information in order to be able to link teacher, student, and school data together to make it easy to better manage the workforce with focus on schools. Chapter 3 presents examples of successful systems from England, Australia, England, Lithuania, the USA.

Quality assurance process and accountability model as the umbrella guiding the workforce management processes

There is a clear need to strengthen the quality assurance approach with enforcement mechanisms to ensure proper outcomes of workforce planning and management processes through:

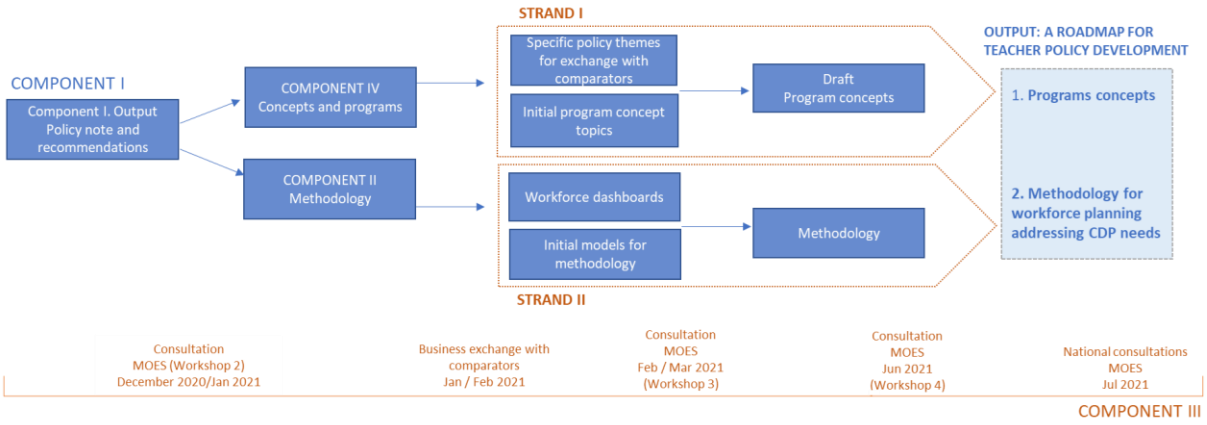
1. Enforcing a structured program evaluation at *all* ITE and for *all* CPD activities utilizing internal (e.g. self-assessment) and external assessments.
2. Introducing an accountability model that balances between compliance and incentives for improvement to continue to meet quality standards, support improvements and encourage innovations. Many countries have introduced incentives and support linked to student and school performance based on a set of indicators (improved learning, reduced school early leavers, improved morale, improved relationships with parents, etc.).
3. Monitoring the workforce planning and management at schools as part of the quality assurance process. Schools should assess quantity and quality of workforce, identify plans for improvement, identify projections and expected actions to fill gaps.
4. Strengthening the quality culture at all levels including that of teachers, principals, regional education authorities. While school-based teacher evaluation is useful, it could be complemented by a centralized

standardized evaluation combining content knowledge with pedagogical practices. Having a standardized teacher evaluation would help in several ways: (a) identify teachers that finished induction period and are still below minimum standards, (b) improve the effectiveness of teacher professional development by tailoring training to areas of poor performance identify by the evaluation, (c) recognizing good teachers and, possibly, deploy them to marginalized areas (demand-driven), pair good performing teachers with not-so-good performer, assign good performing teachers to tutoring or mentoring responsibilities, and (d) ultimately help centering teacher policies with student learning.

Next steps

Based on the planned activities under this consultancy work and following on the agreement from the coordination and technical meetings, the listed next steps are proposed for the Teacher Policy Taskforce (TPT) team:

Figure 1. Nest steps



Strand I: Teacher policy concepts for programs (Components IV and III)

(a) A validation workshop on the Teaching Workforce Policy Note and Recommendations report[7] and next steps proposals. The analytical findings will be a subject of validation interaction with the Directorate-General for Structural Reform Support (DG REFORM) and MOES and inform the next stages of the advisory support. Following the provision of comments from MOES, the World Bank team will initiate a validation session on the present analysis. To address agreements reached during technical meetings, the validation workshop is proposed to cover the following thematic scope: (i) MOES to provide feedback and comments on the analysis and discussion; (ii) MOES to present the policy plans on teacher policy developments within the framework of Education Strategy 2030; (iii) World Bank to facilitate discussion and agreement on (1) the priority list of topics to be developed during the planned business exchange with comparator countries (a list with basic proposals for discussion is available in Chapter 5) and (2) thematic fields and specific topics on which the specific work on program concept development will be launched. The latter is planned as a collaborative exchange between the World Bank team, MOES TPT and experts, and DG REFORM.

[7] Translation into Bulgarian: Bulgarian translation of the current document will be submitted to MOES according to the terms in the agreement.

(b) Business exchange with representatives of comparator countries. The business exchange will be held via videoconference and will provide opportunity for interaction with representatives from the respective public agencies of EU comparative countries that are managing teacher policies or related programs. The topics that will be a focus of this discussion will be selected and prioritized by MOES during the validation session as proposed above. MOES representatives will be invited to participate in facilitating sessions and leading discussion with the counterparts and use this exchange to create thematic partnerships.

(c) Program concepts for teacher policy programs. Following the discussion of the analytical findings and selection of priority policy areas for development of concepts for programs, the World Bank is extending a proposal to form small work teams for exchange and start building on program concepts. The exchange will be facilitated jointly by the World Bank and MOES and will be based on distance exchanges via videoconferencing.

Strand II: Qualification and pedagogical monitoring methodology (Components II and III)

(d) Data audit, cleaning, and preparation: Data provided by MOES to the World Bank team in October 2020 will be used to inform the next elements of this work program that will focus on CPD planning and development of a methodology for addressing CPD needs. A data relevance audit will be performed to identify to what extent the provided data will address the needs for methodology development.

(e) Formulation of workforce dashboards at school, municipal, and regional levels to provide basic CPD and workforce trends and inform methodology planning. Based on the current work on data and the consolidation of information, and following the data provided by MOES in October 2020, the World Bank team will propose a template for dynamic tables with specific information addressing the methodology needs. It will be utilized as a basic tool to inform the work based on teacher workforce information. The dashboard will be presented and consulted with the TPT. The validated instrument will be verified by a group of kindergartens and schools selected by MOES.

(f) A workshop to present and discuss initial model elements and model concepts for forecasting qualification needs. A draft proposal for approaches and models for monitoring teacher workforce with focus on teacher workforce qualification (CPD) will be presented and discussed with the TPT.

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INTRODUCTION AND METHODOLOGICAL NOTES

This analytical report on the teaching workforce policy in Bulgaria is the first output under the Administration Agreement signed between the European Commission (EC) and the International Bank for Reconstruction and Development (the World Bank) in June 2019 (Part II Europe 2020 Programmatic Single-Donor Trust Fund No. TF073320, EC Contract No. SRSS/S2019/037) to support the capacity of the Ministry of Education and Science (MOES) to reform, design, and implement teacher policies for preschool and general education to address teaching shortages and provide students with relevant skills and competences for the future.

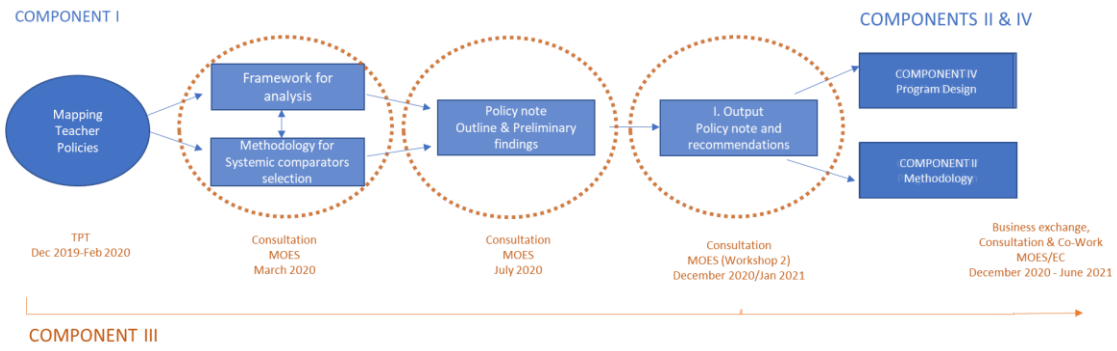
Project 19BG04 'Bulgaria: A Roadmap to Teachers' Policy Development and Reform' endorsed on October 23, 2019, provides technical support in two key policy areas: (a) *human resources* with a focus on developing a strong policy framework to modernize the teaching profession while preparing the system for effective workforce management and (b) *learning and teaching (skills)* of teachers to improve learning outcomes in line with Bulgaria's objective to promote the competence-based approach for teaching and learning. The support is aimed at increasing the efficiency of initiated investments in teacher policies and planning integrated measures to enhance the role of teachers in improving the education system.

The current report presents (a) the results of evidence-based analysis of key teacher policies, functions, practices, and dynamics in Bulgaria with a special focus on workforce characteristics and trends; (b) the knowledge from selected systemic European Union (EU) comparator countries and international best practices for learning from relevant experience; and (c) recommendations for policy developments addressing the effectiveness of teaching workforce policy.

Analytical process and methodological approach

The analytical work involved three key stages—mapping of policy scope and outcomes, development and consultation of methodological framework, and analytical work and consultation of preliminary findings. The teacher policy mapping and analysis informed the formulation of intermediate outputs structuring – the analytical framework for analysis that included a methodology for selection of systematic teacher policy country comparators and informed the outline of the Bulgaria teacher policy analysis. The resulting analytical report 'Teaching Workforce Policy Note and Recommendations' provides findings and recommendations on specific areas pertaining to education workforce policies and will inform the development of the other key outputs of the consultancy—a Methodology for teacher continuing professional development (CPD) and skills monitoring (project Component II) and draft proposals for programs addressing teacher policies (Component IV).

Figure 1. Project Component I: Analytical process steps and outputs



Teacher policy mapping: The mapping addressed key interrelated policy areas, including competence-based learning, financing for teacher policies, continuing professional development and qualifications, legislative and strategic policy frameworks, the role of EU structural funds, teacher workforce planning and management, and management and monitoring processes for teacher policy. It included (a) a desk review of key regulations, strategic documents, and key policy instruments related to teacher policies in Bulgaria; (b) analysis of publicly available data or data provided to the World Bank from MOES under previous analytical collaborations; (c) consultations with experts as coordinated by MOES; and (d) consultations with international experts and initial hypothesis development following existing policy processes. The preliminary findings from the workforce and teacher policy analysis focused on the policy topics of initial teacher education (ITE), CPD, and school leadership were presented and consulted with the Teacher Policy Taskforce (TPT) in July 2020. Data limitation aspects have also been addressed. Feedback from this consultation and discussion outcomes are reflected in the current report.

Framework for analysis and outline: The framework is guided by the foundational principle that all teacher and educational policies should be aligned toward learning as the key objective of schooling. The analytical framework was developed to present the approach and structure of the analysis on teacher workforce planning and policy and ensure that findings are well targeted to Bulgaria's current and future needs and specific circumstances. It is also intended to inform and organize the analytical work, the planning for an outline, and the final policy note. The framework was consulted and endorsed by the TPT in March 2020. The analytical framework describes the organization and the approach to analyzing teacher policies and workforce planning in Bulgaria within the framework of national policy and legislation, key EC strategy documents, and guiding principles underlying teacher policy development and policy coordination in the EU member states and United Nations Educational, Scientific, and Cultural Organization (UNESCO) Teacher Policy Development Guide. It also considers the teacher policy goals and policy levers included in the World Bank's Systems Approach for Better Education Results (SABER) framework for effective teachers and 2018 Report Framework on Learning to Realize Education's Promise.

The framework was informed by and reflects all large-scale student learning assessments and studies in which Bulgaria has participated—the Programme for International Student Assessment (PISA) and Teaching and Learning International Survey (TALIS) of the Organisation for Economic Co-operation and Development (OECD) and Progress in International Reading Literacy Study (PIRLS), Trends in International Mathematics and Science Study (TIMSS), and International Civic and Citizenship Education Study (ICCS) of the International Association for the Evaluation of Educational Achievement (IEA).

Finally, the framework and mapping activities informed the formulation of an outline of the policy note. The report outline summarized the approach for addressing key themes and subtopics covered in the current report. Key discussion questions have been formulated based on the knowledge and information collected during the mapping work and data available. The key findings were consulted with MOES and the EC and validated by the TPT in July 2020.

Methodology for selection of systematic country comparators: The project developed a specific approach for selection of *systematic country comparators* for Bulgaria. The approach and the selection of three comparator countries—the Czech Republic, Estonia, and Slovenia—were consulted and endorsed by the TPT in March 2020. The approach was based on specific data analysis of education outcomes and historic context relevance as it aims at informing key teacher policy goals serving as evidence-based resource for policy improvement and addressing identified challenges by providing relevant examples. The process of selecting the three systematic country comparators was based on analysis of internationally comparable data with a focus on student learning outcomes. The resulting proposal of comparator countries was justified against a set of criteria reflecting Bulgaria-specific context and challenges (outlined by the policy mapping and analysis) and evidence from international assessments

and reports. This logic follows the overall analytical framework approach, particularly on assessing learning achievements and putting learning at the core of teacher policy development and teacher workforce planning.

Consultation: During the analytical work, all intermediate outputs contributing to the development of the analytical report and recommendations were shared, consulted, and endorsed by the TPT in line with the project methodological approach. The project implementation coincided with adverse global developments with COVID-19 emergency situation which necessitated swift reorganization of work and utilizing teleconference and other information technology (IT) solutions for communication and analytical processes management. The World Bank team extended its practice in remote collaboration in support of MOES representatives allowing for uninterrupted communication and consultation with the TPT (including via virtual meetings and a videoconference workshop) on the intermediate outputs as well as data access issues.

To ensure constant access of MOES and EC members of the TPT to project documentation, a special repository for project data, information, and products was created in MS Teams agreeable with the policies and systems of the Directorate-General for Structural Reform Support (DG REFORM), MOES, and World Bank Group. MS Team *Bulgaria Teacher Policies* will be utilized as a communication channel ensuring easy sharing and exchange of information as well as for discussing concrete products and activities upon decision of the TPT participants.

Data, analytical approach, and associated limitations

The level of analytical detail depended on provision of disaggregated data by MOES registers needed for analysis of workforce policy elements. Overall, the analysis is framed by the analysis at the school level as the provision of anonymous teacher-level data has been restricted mainly to considerations and limitations imposed by the General Data Protection Regulation (GDPR).

The workforce findings presented in the current report are built on the analysis of the following:

(a) Consolidated national anonymized data on workforce and students aggregated at the school level and administrative data on education providers. The contextual analysis of consolidated data sets includes two approaches to observe and demonstrate workforce development and trends as a key outcome of education policies targeting teachers—spatial and temporal. *Spatial analysis* considers the variation by geographical location to examine to the extent possible differences between urban and rural areas, by region or localities/communities, and differences at the school level. *Temporal analysis* considers the differences across time, with a retrospective view of what has occurred during the last decade related to education workforce in Bulgaria, identification of policy needs, observation of the respective outcomes and informing policy observations in the following sections. More specifically, the temporal lens of the analysis is focused on the strategic period 2014–2020 to observe policy needs and achievements. When available, data for a longer period have been presented.

(b) Data from international large-scale assessments and studies that Bulgaria takes part in (PISA, TALIS, PIRLS, TIMSS, and ICCS) on the conditions of teaching and learning. The analysis of international data was designed to account for variation in context, including among teachers, and has been used to tailor the findings to key teacher policy areas in Bulgaria while also providing an extensive array of data on teacher backgrounds and qualifications, teacher instructional and assessment practices, and teaching environments. Given Bulgaria's participation in these large-scale student assessments and studies over multiple years, they provide a relevant source of data for both within-country and cross-country analyses.

Data provided by MOES to the World Bank team in October 2020 will be used to inform the next elements of program work that will focus on CPD planning and development of a methodology for addressing CPD needs. A data relevance audit will be performed to identify to what extent data provided will address the needs for methodology development.

Following the data aggregation level, the analysis presents trends and findings related to teacher workforce supply and demand in Bulgaria for 2005–2018 based on school-level observation. This analysis produces empirical findings investigating teacher characteristics, their distribution across the system, and evolution in the last years. A school database was constructed to link data sources at the school level containing information from the following sources:

- School-level data about teachers, nonteaching staff, students, and classes and school administrative data based on MOES data provided to the World Bank following previous analytical work and collaboration
- Data from assessments of grade 4, 5, and 12 students for 2011–2017 that were used for school value-added measurement (SVAM) estimates in 2018.[8] SVAM estimates were produced for 2015 and 2016. The data used to produce those included information on students' prior attainment, their parental socioeconomic background (such as education level or employment status), and the language spoken at home.[9] Student socioeconomic data integrated into SVAM estimates were collected by MOES in school year 2016/2017 for the vast majority of students (95 percent or more) in grades 1–11 across the education system.

School-level data versus teacher-level data addressing teacher policies knowledge needs: lessons from ongoing work and recommendations

From an education workforce-level analysis perspective, there are important methodological limitations posed by the nature of the data utilized for the workforce analysis—school-level data. While the data observed are at the group level (the school), the phenomenon of interest (teachers) is of individual nature and cannot be observed but from an aggregate perspective (that of the school). This results in a high risk of producing 'ecological fallacies', a statistical concept about the interpretation of statistical data that occurs when inferences about the nature of individuals are deduced from inferences about the group to which those individuals belong. In this case, this entails differences in inferences about school individuals (teachers) compared to those about the group to which they belong (school). In particular, ecological fallacies can lead, among others, to the incorrect interpretation of individual-level correlations (for example, teacher age and teacher turnover) based on group-level data. This is why this analysis is limited to exploit many patterns and trends driven by decisions at the teacher level and hence is limited to a more general overview of teacher policy outcomes and trends. The data available to the team in October 2019–September 2020 limits the identification of teachers in aggregate numbers only at the school level.

A key recommendation to MOES is to consider those aspects and address future policy plans by involving analysis at specific teacher-level groups. A list of key workforce and teacher policy questions, which could be answered with teacher-level data, is presented in Annex 5 to indicate the scope of potential knowledge and system overview that can be inferred through anonymized teacher-level data analysis.

[8] SVAM is an indicator addressing learning outcomes and socioeconomic status of children for all schools teaching grades 5–7 and 8–12 in Bulgaria, which was developed by the World Bank within 2017 Reimbursable Advisory Service on School Value Added Measurement and School Performance Indicators.

[9] SVAM scores aim at measuring the contribution of schools to student learning, discounting their previous learning outcomes in the past and their socio-economic characteristics. It is assumed results are used to better reflect school effectiveness, rather than plain test results, so that the true contribution of the school to student learning is reflected.

Scope and structure of the analysis

This report draws on the results of an extensive evidence-based analysis of key teacher policies, functions and practices in Bulgaria with a special focus on workforce characteristics and trends. It incorporates relevant knowledge from selected systemic European Union (EU) comparator countries and international best practices for learning from relevant experience. The analytical approach is based on the framework developed to address teacher policy analysis in Bulgaria and the methodology for selection of relevant systemic country comparators (see Annex 6 and 7). It provides findings that will be used to inform next stages of the advisory support (see Next steps below) and recommendations for policy developments addressing the effectiveness of teaching workforce policies.

The report is organized in five chapters covering features of teacher policy context and specific teacher policy domains:

Chapter 1 presents an overview of education workforce dynamics in Bulgaria covering the period 2005-2018. The analysis provides an overview of the current teacher workforce portfolio in terms of age distribution, years of pedagogical experience, level of ITE, and PQDs. Detailed data by administrative region is provided in Annex 5. To inform needs for teachers the chapter looks into the distribution (supply) of the education workforce and teacher demand measured by student-teacher ratio (STR) and school characteristics (geographic location, school type, and funding group category). Finally, the chapter presents data on school leadership distribution and trends.

Chapter 2 is focused on Bulgaria learning outcomes and associated education policy developments in order to outline critical areas, needs, and opportunities. The learning-oriented outcomes and evidence have been accepted as a baseline to propose possible steps forward, thematic areas and needs for teacher policies development. The analysis is based on a desk review of preschool and school education reforms and policy developments and refers to evidence on learning outcomes that are available from national and international learning assessments. A brief overview of MOES programs and initiatives that address teacher policies is presented.

Chapter 3 discusses the mix of policies that directly address workforce. It follows the workforce life-cycle stages to track and inform teacher policy aspects and developments. The thematic scope covers initial teacher education, induction and associated practices, continuing professional development and qualification of teachers, career development, standards, and workforce planning processes. A holistic approach in addressing those key policy aspects has been applied to understand the driving factors influencing workforce development.

Chapter 4 is focused on the role of school leadership in providing an essential bridge between educational policy and practice in line with one of the key principles of the Bulgarian education system introduced by the Preschool and School Education Act (PSSEA)—decentralization through self-governance and autonomy delegated at the school level. The chapter provides a review of identified policy measures and needs to address persistent challenges related to leadership competences and career development and collaboration for instructional leadership focused on concentrating efforts and resources on improving teaching and learning for all students as the center of planning and staff development.

Chapter 5 presents the teacher policy lessons from Estonia, Slovenia, and the Czech Republic. Organized as separate case studies, the teacher policy evolution and approach of the three countries are presented together with specific examples for key system-change initiatives undertaken.

The report ends with:

1. **A list of preselected teacher policy themes** proposed by the World Bank team for TPT validation and intended to scope the forthcoming business exchange with representatives of the comparator countries selected –

Estonia, Slovenia and Czech Republic. This selection will serve as initial thematic list for the priority areas MOES and TPT will prioritize as key steps addressing teacher policies and will inform teacher policy programs development in the next stage of the consultancy work within Component IV.

2. **A proposal on the future policy approach** addressing teaching policies in Bulgaria that reflects the lessons and experience of the comparator countries. The approach is based on the international and comparators experience and is formulated as three key steps: coherence of the policy approach, mapping of policy elements and selection of priority areas for policy action packed with rigorous monitoring and evaluation tools.

CHAPTER 1. Workforce Overview: Teaching Workforce Profiles and Dynamics in Bulgaria

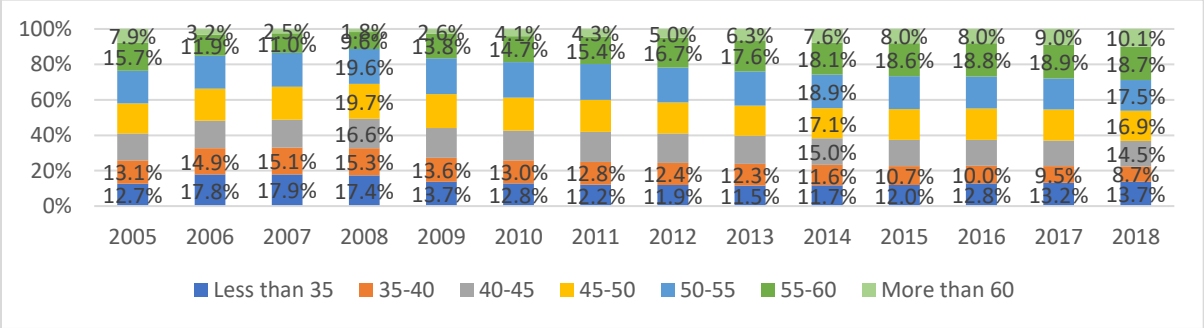
Workforce composition and characteristics represent a specific outcome of the policies addressing teachers. Teaching workforce is also a key feature of the context in which teacher policies in Bulgaria are being developed and implemented. The following overview of the education workforce development highlights specific parameters of the education workforce in Bulgaria and specific strengths, challenges, and policy trends based on school-level aggregated data observation. A review of workforce supply and demand is proposed, aimed at contributing to existing knowledge regarding workforce trends in Bulgaria.

The contextual analysis includes two approaches to observe and demonstrate workforce development and trends as a key outcome of education policies targeting teachers: spatial and temporal. *Spatial analysis* considers the variation by geographical location to examine to the extent possible differences between urban and rural areas, by region or localities/communities, and differences at the school level. *Temporal analysis* considers the differences across time, with a retrospective view of what has occurred during the last decade related to education workforce in Bulgaria, identification of policy needs, observation of the respective outcomes, and informing policy observations in the following sections. More specifically, the temporal lens of the analysis is focused on the strategic period 2014–2020 to observe current policy needs and achievements. When available, data for a longer period have been analyzed and presented.

Teaching workforce overview[10]

The number of teachers in school education in Bulgaria increased between 2005 and 2018 by 10 percent. In 2005, a total of 64,207 teachers were identified in primary and secondary schools, whereas in 2018 the number of teachers increased up to 71,670. This implied a 10 percent increase of the teaching workforce. In particular, the evolution of the teacher workforce is related to a progressive process of ageing after 2008 (where teacher age distribution was youngest) up to 2018. After 2012, the share of professionals ages below 35 years increased from 11.5 percent to 13.7 percent in 2018. This is combined with a sharp decrease of professionals between 35 and 40 years of age for the period between the economic crisis in 2007 and 2018. The system was not able to retain one of the most proactive age groups of the education workforce.

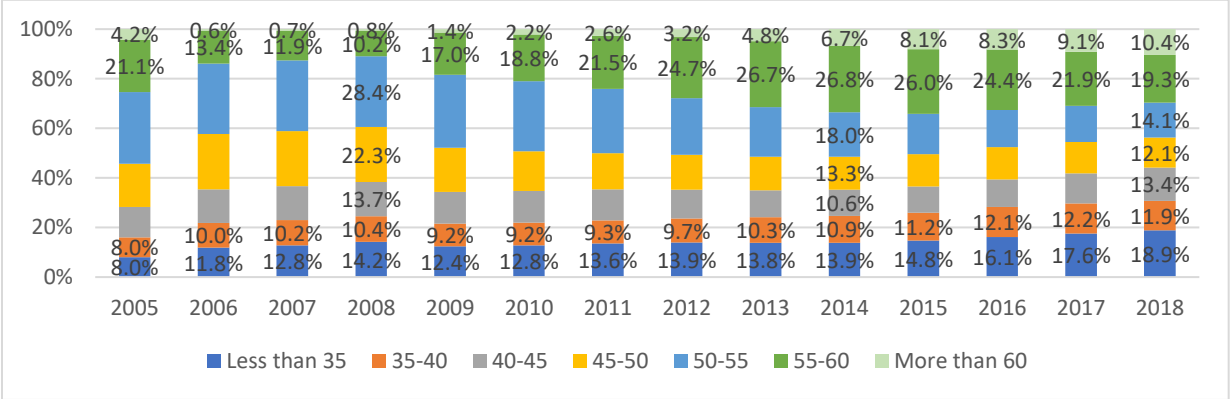
Figure 1.2. Evolution of teacher workforce in primary and secondary education by age



[10] Data presented in the report and figures are based on the school database constructed by the World Bank team to link school-level data (about teachers, nonteaching staff, students, classes, and school administrative data) and data from assessments of grade 4, 5, and 12 students for 2011–2017, both provided by MOES, unless indicated otherwise.

In preschool, the teacher workforce has progressively become younger in the last years, with the share of teachers ages 45 or younger increasing from 28 percent to 43 percent between 2005 and 2018, especially after 2011 with the proportion of professionals ages below 35 in particular increasing from 13.9 percent to 18.9 percent.

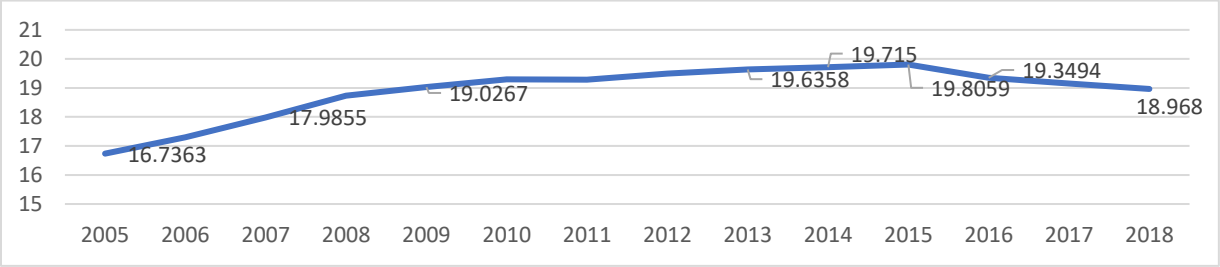
Figure 1.3. Evolution of teacher age in preschool



The group ages below 35, that is, specifically prioritized in strategies addressing teachers, remains below the 2007 levels for school education while marking some growth in preschool education. The 2014–2020 Strategy for Development of Pedagogical Professionals identified the age group below 35 years as a priority one to attract and stimulate teachers to remain in the teaching profession in order to address age disbalances. For the observed period (2014–2018), the number of school education professionals in that group grew approximately by 2 percent (see Figure 1.1) to remain close to prior the economic crisis of 2007–2008 levels, demonstrating stagnant policy effects. The preschool workforce below age 35 grew by 5 percent (see Figure 1.2) and in contrast with the school workforce is demonstrating a stable trend of increase. While the strategy is not specific on the levels of this age group targeted by the system and is providing only indicators for observation, the current data access limitations do not allow for further observation of the age groups dynamics and matching between specific profiles of education and workforce professionals.

Years of experience (measured by the average years of pedagogical experience in the profession for all teachers) in a school increased while preschool workforce experience decreased. In school education, an increase between 2005 and 2015 (16.7 percent) continued to reach a peak of almost 20 years of experience in 2015. After this, the average years of experience slightly decreased to 19 years by 2018. Over the last years of the period, preschool workforce experience decreased from 21 years to 18 years (with no data available for 2012 and 2013). On the one hand, this may be related to the fact that the teacher population has become younger. Limitations posed by available data do not allow for observation of workforce dynamics, for example, trends in employment tenure by age groups, to understand the characteristics and causes for the observed variations and inform the needs related to professional experience.

Figure 1.4. Evolution of teachers' years of experience in K-12[a] (primary and secondary schools)



Note: a. K-12 is a short form for the span of publicly supported grades covered by school education.

Table 1.1. Teachers with initial teacher education degree levels below standard requirements (2005–2018)

(available in full size in Annex 5)

Teachers with **education level below BA** - by **year and type of institution**

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Grand Total		16,930 18.4%	16,125 17.3%	15,140 16.7%	13,633 16.0%	12,702 15.0%	11,985 14.2%	11,334 13.5%	11,132 13.0%	10,925 12.5%	10,636 12.0%	10,142 11.4%	9,230 10.3%	8,585 9.6%	7,959 8.8%
kindergarten	Kindergarten	5,914 38.7%	5,731 36.8%	5,540 35.2%	5,535 34.0%	5,318 32.2%	5,073 30.3%	4,766 28.1%	4,597 26.4%	4,516 25.4%	4,384 24.1%	4,123 22.6%	3,736 20.1%	3,418 18.2%	3,117 16.4%
non-specialised	Basic (I - VII grade)	5,230 20.7%	4,852 19.4%	4,600 18.9%	3,831 17.2%	3,535 15.9%	3,360 15.0%	3,266 14.3%	3,326 13.9%	3,287 13.4%	3,225 12.9%	3,085 12.3%	2,739 10.9%	2,512 10.1%	2,335 9.3%
	Primary (I - IV grade)	340 19.2%	310 17.4%	290 16.3%	268 16.0%	231 13.8%	222 13.0%	219 12.4%	247 13.2%	235 12.2%	218 11.0%	203 10.3%	185 9.2%	165 8.1%	153 7.4%
	Profiled upper secondary school	82 1.4%	88 1.5%	83 1.4%	76 1.4%	66 1.2%	66 1.2%	55 1.0%	49 0.9%	37 0.7%	47 0.9%	52 1.0%	64 1.2%	61 1.2%	42 0.8%
	Secondary school (I - XII grade)	2,690 11.0%	2,505 10.4%	2,361 10.0%	1,940 8.9%	1,829 8.5%	1,677 7.9%	1,596 7.5%	1,603 7.3%	1,612 7.2%	1,580 6.9%	1,499 6.5%	1,402 6.0%	1,367 5.8%	1,265 5.3%
	United (I - X grade)	334 26.3%	304 23.9%	288 22.9%	237 20.4%	235 19.9%	226 18.4%	219 17.6%	222 16.9%	207 15.5%	186 14.0%	180 13.7%	174 13.3%	168 12.2%	177 12.1%
	Vocational gymnasium	1,837 12.0%	1,780 11.8%	1,480 10.6%	1,240 9.8%	1,040 8.7%	930 8.1%	826 7.6%	730 7.0%	680 6.6%	648 6.4%	648 6.5%	619 6.3%	682 6.5%	666 6.3%
special	Correctional boarding schools	31 31.6%	29 33.3%	29 33.7%	24 32.0%	20 28.2%	21 28.4%	17 24.3%	11 19.0%	12 21.1%	13 24.1%	13 22.8%	4 7.4%	4 8.9%	4 9.3%
	School for visually handicapped children	18 11.2%	15 9.6%	15 10.4%	10 7.8%	11 8.1%	11 7.9%	11 8.0%	8 6.1%	6 4.8%	6 4.9%	8 6.5%	7 5.8%	6 5.0%	6 5.0%
	Schools for hard hearing children	29 11.4%	30 11.7%	30 12.2%	31 13.4%	28 12.6%	22 10.5%	22 10.7%	23 11.5%	19 9.8%	18 9.2%	19 10.4%	21 11.3%	18 9.8%	14 7.8%
	Social-pedagogic boarding schools	3 18.8%	4 25.0%	3 23.1%	3 21.4%	1 6.7%	1 7.7%	1 7.7%	2 20.0%	1 10.0%	2 13.3%	2 11.8%	1 6.3%	0 0.0%	0 0.0%
specialised	Arts school		75 5.5%	69 5.2%	64 5.1%	65 5.1%	68 5.3%	62 4.8%	55 4.4%	56 4.4%	51 4.0%	52 4.0%	46 3.5%	56 4.2%	56 4.1%
	Cultural school		7 4.4%	6 3.7%	7 4.4%	5 3.3%	5 3.3%	4 2.7%	4 2.6%	7 4.3%	6 3.8%	7 4.5%	6 4.0%	6 4.1%	8 5.4%
	Religious school	9 7.1%	8 7.3%	7 6.0%	7 6.4%	5 4.8%	5 4.9%	4 4.0%	3 2.8%	2 1.9%	2 1.9%	3 2.8%	3 2.9%	5 4.7%	6 5.4%
	Sports school	82 9.8%	79 9.1%	75 8.8%	140 13.5%	125 12.6%	124 12.7%	117 12.0%	112 11.3%	106 10.7%	104 10.5%	104 10.4%	99 10.2%	107 10.9%	101 10.2%
	Centre for special educational support	320 22.8%	299 23.7%	256 23.0%	215 22.0%	180 19.9%	163 18.9%	135 16.2%	128 16.1%	129 16.0%	135 16.7%	130 16.3%	111 14.5%		
detention centre sch..	Detention centre school	11 9.6%	9 8.1%	8 7.3%	5 5.1%	8 7.6%	11 9.5%	14 10.1%	12 8.3%	13 8.0%	11 6.7%	14 8.8%	13 8.7%	10 6.8%	9 6.7%

0.0% 38.7%

Funded by the European Union via the Structural Reform Support Programme and implemented by the World Bank in cooperation with the European Commission

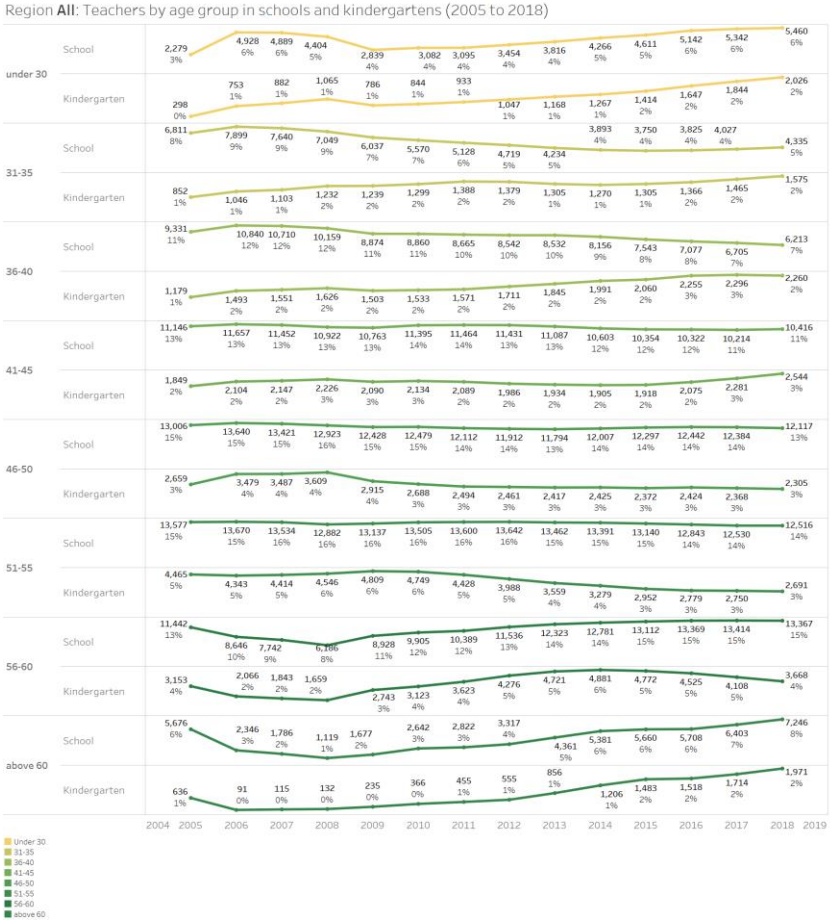
Table 1.2. Teachers by age group in kindergartens and schools by region (2018) (available in full size in Annex 5)

Teachers by age group in kindergartens and schools, by region (2018)

	Kindergarten								School							
	under 30	31-35	36-40	41-45	46-50	51-55	56-60	above 60	under 30	31-35	36-40	41-45	46-50	51-55	56-60	above 60
Blagoevgrad	108 11.3%	107 11.2%	108 11.3%	132 13.8%	111 11.6%	130 13.6%	222 23.2%	40 4.2%	288 8.2%	239 6.8%	330 9.4%	664 18.9%	652 18.5%	589 16.7%	601 17.1%	157 4.5%
Burgas	102 9.1%	114 10.2%	170 15.2%	165 14.7%	156 13.9%	144 12.8%	181 16.1%	90 8.0%	255 6.0%	254 6.0%	429 10.1%	697 16.4%	713 16.8%	709 16.7%	777 18.3%	410 9.7%
Dobrich	44 8.6%	42 8.2%	68 13.3%	70 13.6%	65 12.7%	73 14.2%	110 21.4%	41 8.0%	93 5.5%	89 5.3%	135 8.0%	215 12.8%	301 17.9%	294 17.5%	385 22.9%	167 9.9%
Gabrovo	25 8.9%	11 3.9%	22 7.9%	18 6.4%	24 8.6%	60 21.4%	91 32.5%	29 10.4%	49 5.0%	41 4.2%	69 7.1%	106 10.9%	167 17.2%	208 21.4%	237 24.4%	96 9.9%
Haskovo	56 9.7%	43 7.5%	80 13.9%	75 13.0%	75 13.0%	104 18.0%	113 19.6%	31 5.4%	120 5.5%	130 5.9%	191 8.7%	346 15.8%	441 20.1%	433 19.8%	379 17.3%	151 6.9%
Kardzhali	33 7.5%	23 5.2%	80 18.2%	67 15.3%	58 13.2%	67 15.3%	83 18.9%	28 6.4%	84 5.2%	108 6.7%	185 11.5%	246 15.3%	256 15.9%	281 17.4%	288 17.9%	164 10.2%
Kyustendil	16 6.0%	25 9.4%	31 11.6%	36 13.5%	43 16.1%	48 18.0%	55 20.6%	13 4.9%	39 3.4%	54 4.7%	86 7.6%	215 18.9%	207 18.2%	228 20.0%	235 20.6%	75 6.6%
Lovech	57 17.6%	19 5.9%	27 8.3%	44 13.6%	33 10.2%	52 16.0%	66 20.4%	26 8.0%	114 8.2%	62 4.5%	106 7.6%	168 12.1%	245 17.7%	305 22.0%	267 19.2%	121 8.7%
Montana	26 8.0%	14 4.3%	31 9.6%	56 17.3%	48 14.8%	48 14.8%	66 20.4%	35 10.8%	74 5.5%	83 6.1%	112 8.3%	197 14.5%	226 16.7%	228 16.8%	298 22.0%	136 10.0%
Pazardzhik	40 6.7%	46 7.7%	74 12.3%	73 12.1%	78 13.0%	88 14.6%	149 24.8%	53 8.8%	189 6.8%	163 5.9%	306 11.1%	408 14.8%	449 16.3%	450 16.3%	536 19.4%	262 9.5%
Pernik	30 10.0%	48 16.1%	21 7.0%	45 15.1%	27 9.0%	42 14.0%	58 19.4%	28 9.4%	92 8.2%	80 7.1%	117 10.4%	145 12.9%	178 15.9%	183 16.3%	200 17.9%	125 11.2%
Pleven	71 11.2%	60 9.5%	78 12.3%	97 15.3%	73 11.5%	88 13.9%	102 16.1%	64 10.1%	184 6.8%	121 4.5%	178 6.6%	391 14.5%	520 19.3%	516 19.2%	558 20.7%	223 8.3%
Plovdiv	230 12.6%	137 7.5%	207 11.3%	299 16.4%	214 11.7%	255 14.0%	317 17.4%	168 9.2%	679 10.1%	503 7.5%	651 9.7%	1,089 16.2%	1,153 17.2%	995 14.8%	1,047 15.6%	590 8.8%
Razgrad	39 10.5%	35 9.4%	45 12.1%	29 7.8%	43 11.5%	53 14.2%	102 27.3%	27 7.2%	80 6.3%	81 6.4%	128 10.2%	204 16.2%	216 17.1%	221 17.5%	236 18.7%	95 7.5%
Ruse	68 12.5%	46 8.5%	57 10.5%	78 14.4%	93 17.1%	67 12.3%	82 15.1%	52 9.6%	128 6.1%	130 6.2%	173 8.3%	305 14.6%	412 19.7%	368 17.6%	369 17.7%	204 9.8%
Shumen	46 8.8%	33 6.3%	58 11.1%	74 14.1%	94 18.0%	98 18.7%	103 19.7%	17 3.3%	101 5.5%	134 7.3%	201 11.0%	362 19.8%	284 15.5%	281 15.4%	346 18.9%	118 6.5%
Silistra	32 10.8%	25 8.4%	38 12.8%	24 8.1%	30 10.1%	52 17.5%	68 22.9%	28 9.4%	69 5.9%	76 6.5%	87 7.4%	168 14.4%	227 19.4%	225 19.2%	215 18.4%	103 8.8%
Sliven	55 12.6%	36 8.2%	52 11.9%	48 11.0%	52 11.9%	82 18.8%	71 16.2%	41 9.4%	172 8.6%	130 6.5%	189 9.4%	245 12.2%	331 16.5%	377 18.8%	386 19.3%	174 8.7%
Smolyan	27 8.5%	29 9.2%	50 15.8%	39 12.3%	26 8.2%	59 18.7%	71 22.5%	15 4.7%	77 5.9%	93 7.1%	112 8.6%	183 14.0%	235 18.0%	230 17.6%	275 21.0%	103 7.9%
Sofia	103 16.6%	62 10.0%	62 10.0%	61 9.8%	53 8.5%	99 15.9%	108 17.4%	74 11.9%	231 9.4%	148 6.0%	182 7.4%	292 11.9%	357 14.5%	481 19.6%	506 20.6%	263 10.7%
Sofia City	434 11.6%	296 7.9%	427 11.4%	446 11.9%	333 8.9%	405 10.8%	706 18.8%	701 18.7%	1,314 10.3%	795 6.2%	970 7.6%	1,591 12.4%	1,667 13.0%	2,086 16.3%	2,329 18.2%	2,042 16.0%
Stara Zagora	97 11.9%	58 7.1%	98 12.1%	117 14.4%	90 11.1%	111 13.7%	143 17.6%	98 12.1%	262 7.8%	185 5.5%	264 7.9%	459 13.7%	639 19.0%	634 18.9%	606 18.1%	308 9.2%
Targovishte	16 5.3%	15 5.0%	29 9.6%	32 10.6%	52 17.2%	66 21.8%	83 27.4%	10 3.3%	52 4.4%	53 4.5%	101 8.6%	173 14.8%	217 18.5%	246 21.0%	245 20.9%	85 7.3%
Varna	106 8.3%	135 10.5%	156 12.2%	189 14.8%	187 14.6%	179 14.0%	210 16.4%	119 9.3%	282 6.1%	276 6.0%	421 9.1%	663 14.3%	800 17.3%	769 16.6%	871 18.8%	544 11.8%
Veliko Tarno..	68 11.5%	45 7.6%	71 12.0%	63 10.6%	81 13.7%	100 16.9%	125 21.1%	39 6.6%	232 9.9%	149 6.4%	171 7.3%	348 14.9%	471 20.2%	436 18.7%	358 15.4%	167 7.2%
Vidin	13 6.1%	12 5.6%	24 11.2%	32 15.0%	31 14.5%	32 15.0%	45 21.0%	25 11.7%	37 4.5%	28 3.4%	56 6.8%	95 11.6%	156 19.0%	169 20.6%	212 25.8%	69 8.4%
Vratsa	49 9.6%	27 5.3%	61 12.0%	94 18.5%	95 18.7%	61 12.0%	93 18.3%	28 5.5%	119 6.6%	87 4.8%	177 9.8%	275 15.3%	361 20.1%	343 19.1%	316 17.6%	120 6.7%
Yambol	35 11.4%	32 10.4%	35 11.4%	41 13.4%	40 13.0%	28 9.1%	45 14.7%	51 16.6%	42 3.4%	41 3.3%	86 7.0%	159 12.9%	229 18.6%	223 18.1%	280 22.8%	169 13.8%

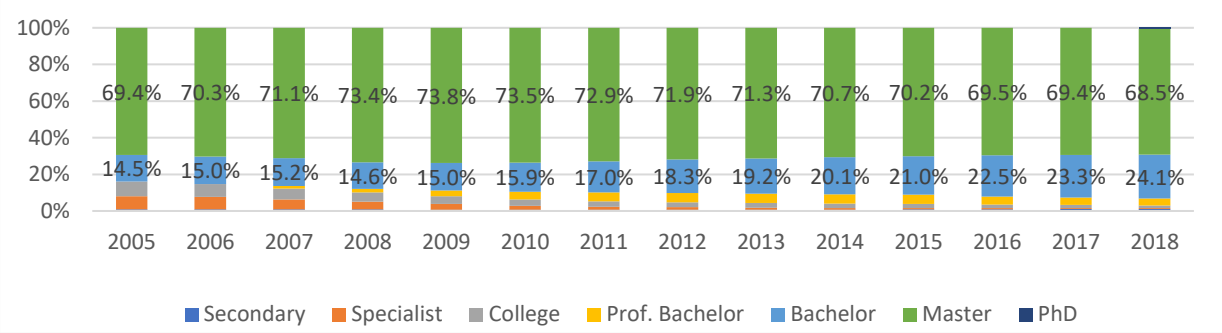
3.3% 32.5%

Figure 1.5. Teachers by age group in schools and kindergartens (2005 to 2018) (available in full size in Annex 5)



Moreover, the ITE level of school education teachers has advanced toward an overall upgrade of teachers to at least a bachelor's degree (with the share of teachers with a master's degree remaining constant). As of 2018, 93 percent of teachers hold at least a bachelor's degree, a higher number compared to the 84 percent reached in 2005.

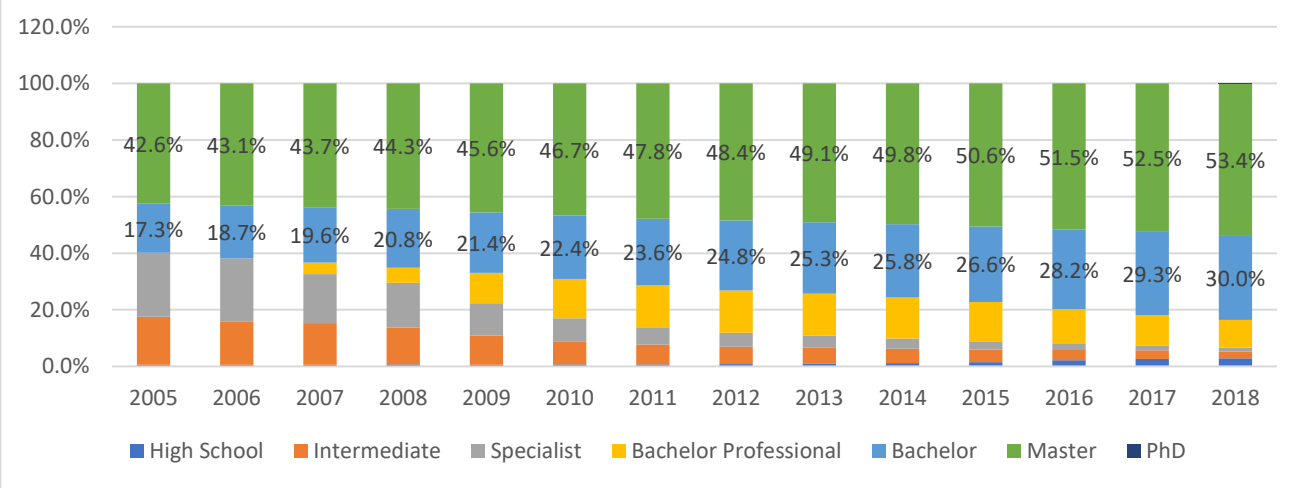
Figure 1.6. Evolution of the initial qualification of teachers in school education (primary and secondary)



Basic, primary, and united schools accommodated most of the nonqualified teachers in 2018. Overall, MOES data indicate needs and options for specific targeting of national programs for development of education (NPDEs) and specialized CPD initiatives. Based on available data on programs targeting nonqualified professionals in the education system, it is not possible to assess the planned target addressing professionals with lower qualifications in the education system and the contribution of those programs to workforce development.

ITE for preschool teachers has also experienced an upgrade in levels of education achieved. In particular, the share of teachers with a bachelor's or master's degree increased remarkably from 60 percent in 2005 to 83 percent in 2018. As discussed in the next chapter, the lack of standardized observation of school readiness of children or preschools accountability, in combination with a flat trend of low-performing students in primary education, signals the need to establish specific policy monitoring to inform early learning and workforce policy. Limitations posed by available data do not allow for specific analysis of the age groups to reveal trends behind the aggregated data displayed.

Figure 1.7. Evolution of initial teacher education in preschool



* Intermediate equals ISCED 5 Short-cycle tertiary education (полувисше)

In preschool, the number of teachers without qualification[11] was much higher in 2018 than in school education. In 2018, around 16 percent of the workforce in preschool did not match qualification requirements. The lack of individual-level data limits the observation of details behind this trend. The differences in nonqualified teachers, according to the municipal funding type[12], demonstrate that municipalities belonging to funding groups 2 and 8 are the only ones with less than 5 percentage of their education workforce being below qualification requirements.

Distribution of teacher workforce and workforce demand

To observe workforce distribution and its relevance to the education system demand, workforce characteristics and their distribution are presented for both primary and secondary education as well as preschool teachers by reviewing available data aggregated at the institutional level regarding the distribution of the teacher population across the system by teacher professional characteristics of qualification, age, and experience. Such characteristics are analyzed through available system characteristics of schools such as school size, location in urban or rural municipality, and student profile/characteristics. Trends observed over time are also presented to better understand time dynamics.

The concept of teacher demand measured by the number of students in the educational institution is applied to build a consistent indicator for observation of workforce distribution (supply). The STR is a key indicator used across workforce planning instruments by different countries to inform supply and planning-related estimations. The real STR per school and preschool was computed for every year by dividing the total number of students by the total number of teachers in a school. Given that teacher information is observed at the school level, schools are divided by quintiles of their average STR. Tables 1.3 and 1.4 exemplify basic statistics of STR quintiles observed for 2018 in terms of mean, minimum, and maximum values for each of the five quintile categories for both primary and secondary as well as preschool teachers. As can be seen, STR categories and averages are slightly higher for preschool teachers (especially in the first STR school groups) compared to primary and secondary schools.

Table 1.3. Basic statistics for student-teacher ratio by school quintiles (Qs) of STR (2018) - primary and secondary schools

	Mean	Minimum	Maximum
Q1 (lowest STR)	4.5	0.2	6.3
Q2	7.3	6.3	8.3
Q3	9.1	8.3	9.9
Q4	10.7	9.9	11.6
Q5 (highest STR)	13.3	11.6	28.7

Table 1.4. Basic statistics for STR by school quintiles of STR (2018) - preschools

	Mean	Minimum	Maximum
Q1 (lowest STR)	7.1	0.5	8.8
Q2	9.8	8.8	10.5
Q3	11.1	10.5	11.7
Q4	12.4	11.7	13.3
Q5 (highest STR)	14.7	13.3	26.0

[11] Covering employed with high school, intermediate, specialist, bachelor professional qualification

[12] School funding is based on a methodology that addresses specific local level peculiarities and groups municipalities into funding groups that define some of the components of the funding formula.

Schools with the highest STR have a larger proportion of highly qualified teachers (close to 80 percent) whereas schools with the lowest STR have a proportion of highly qualified teachers that is slightly below 60 percent.

There is a positive and strong association between the STR and ITE (measured by the proportion of teachers with a master's degree or PhD). In particular, schools with the highest STR have a larger proportion of highly qualified teachers (close to 80 percent) whereas schools with the lowest STR have a proportion of highly qualified teachers that is slightly below 60 percent. Such differences have been overall constant since 2005. Similarly, preschools with the lowest STR (especially Q1 and Q2) have a lower proportion of teachers with high ITE degrees.

Figure 1.8. Proportion of teachers with a master's degree or PhD by school quintile of STR (primary and secondary)

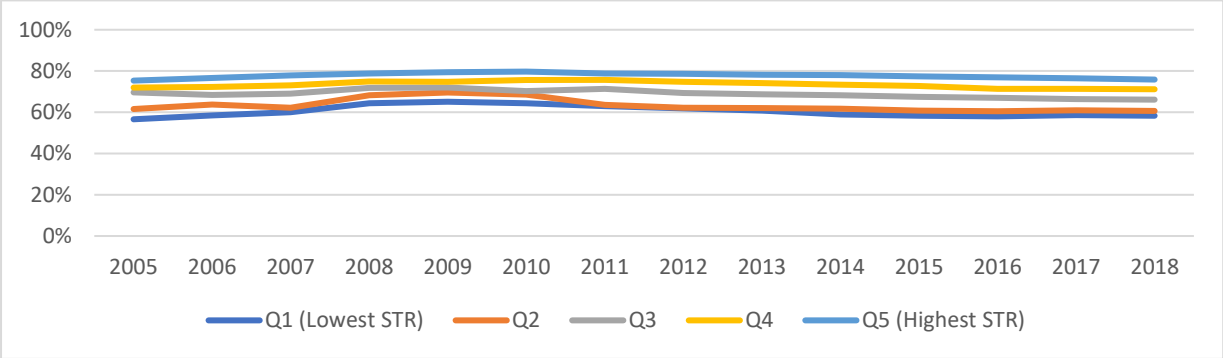
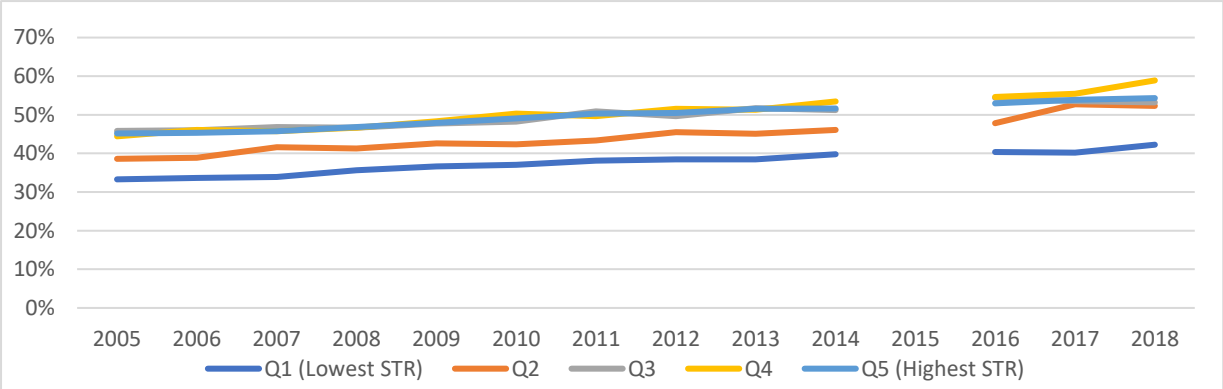


Figure 1.9. Proportion of teachers with a master's degree or PhD by quintile of STR (preschool)



Note: Here and below results for specific years have not been presented as analysis of data indicated concerns about their reliability.

Preschools with the lowest STR (especially Q1 and Q2) have a lower proportion of teachers with high ITE levels.

There is a small and positive association between the STR and teacher years of pedagogical experience which has widened in the last years. While the variations between schools in different STR quintiles were small (but nonnegligible) between 2005 and 2008, the growth in terms of accumulated years of experience has been unequal. Schools with the highest STR have the average years of teacher experience increase above 20 years, but those with the lowest STR have experienced a more modest increase, followed by a downward trend since 2015. Conversely, the average experience of teachers in preschools has been declining in the last years, especially for kindergartens with the lowest STR. This indicates the existing differences between schools and preschools and the specific needs of program design and responses for CPD support and career development policies.

Figure 1.10. Average years of pedagogical experience by school quintile of STR (primary and secondary)

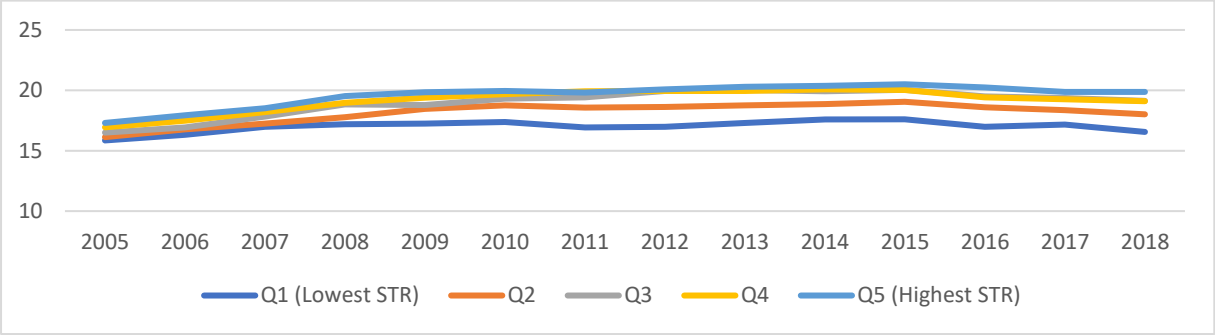
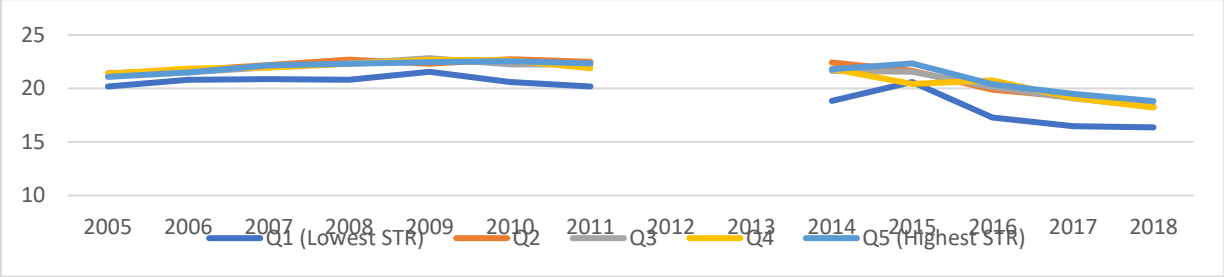


Figure 1.11. Average years of pedagogical experience by school quintile of STR (preschool)



Growth in terms of accumulated years of pedagogical experience has been unequal. While schools with the highest STR have the average years of teacher experience increase above 20 years, those with the lowest STR have experienced a more modest increase, followed by a downward trend since 2015.

On the other hand, no differences were found when analyzing the relation between STR and teacher age (measured by the proportion of teachers ages 50 and above), with the small exception of the high STR school quintile group which increased slightly more than the other quintile groups. Finally, the proportion of teachers ages 50 and above declined in the last years for all school groups, especially in schools with the lowest STR.

The workforce in those ages 50 or more declined after 2014 for all institutions, especially for the lowest STR schools and preschools—they are the system example for attracting younger age groups.

Figure 1.12. Proportion of teachers ages 50 or more by school quintile of STR (primary and secondary)

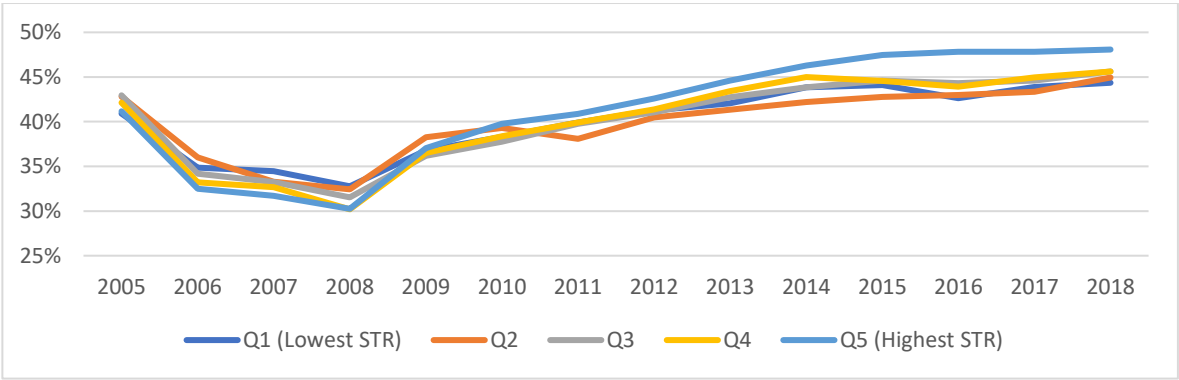
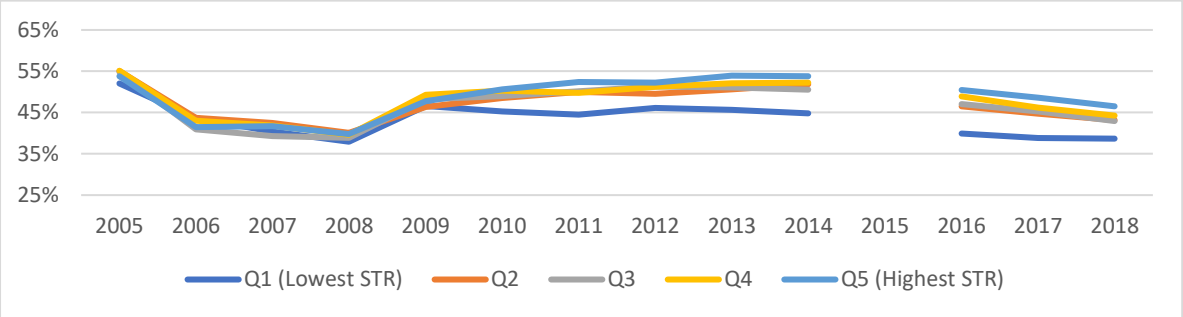


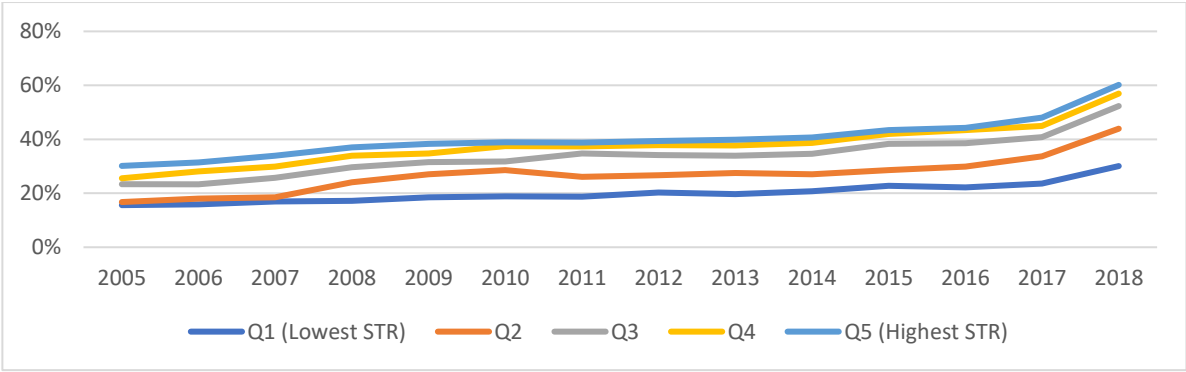
Figure 1.13. Proportion of teachers ages 50 or more by school quintile of STR (preschool)



There are important differences in the proportion of teachers with obtained PQD between the STR quintile groups of schools and preschools. In particular, the differences between the highest and lowest STR school groups were significant in 2005 (30 percent and 15 percent for the schools with highest STR and lower STR, respectively) and have further widened over the last years, mostly because the lowest STR schools have not progressed as the rest of the schools in the system. This results in an even larger difference between highest and lowest STR group schools in terms of the proportion of teachers with PQD in 2018 in comparison with 2005 (60 percent and 30 percent, respectively). With respect to preschool, the progression in teachers with a PQD has been proportional. All preschool groups (by STR) have progressed approximately in the same proportion (around 30 percentage points) in terms of numbers of teachers with PQD.

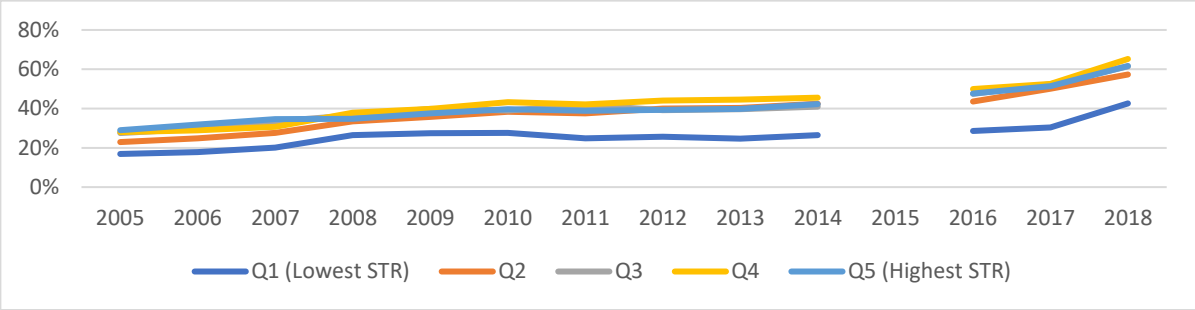
Both schools and preschools with low STRs are behind the other groups in terms of PQD developments. As of 2018, the difference between highest and lowest STR schools in terms of proportion of teachers with PQD became larger than in 2005 (60 and 30 percent, respectively). This is a clear indication of the need for more flexible CPD policies toward institution specifics and reinforces the recommendation for introduction of school improvement programs that integrate CPD packages.[13]

Figure 1.14. Proportion of teachers with PQD by school quintile of STR (primary and secondary)



[13] Refer to Chapter 3.

Figure 1.15. Proportion of teachers with PQD by school quintile of STR (preschool)



An important question to dig deeper into the variation in STR across the country is whether differences can be explained by regional or municipal differences. If so, part of the teacher supply differences across Bulgaria would be linked to the regional or municipal structure of Bulgaria. As shown in **Error! Reference source not found.** and REF _Ref55643498 \h * MERGEFORMAT **Error! Reference source not found.** (for both primary/secondary and preschool), little variation in STR is observed by region, with 95 percent of regions between 8–10 STR for primary/secondary and 9–11 STR in preschool. More significant differences are observed within the regions, that is, between different municipalities.[14]

Figure 1.16. STR in municipalities with smaller school classes (less than 16 children [y-axis])

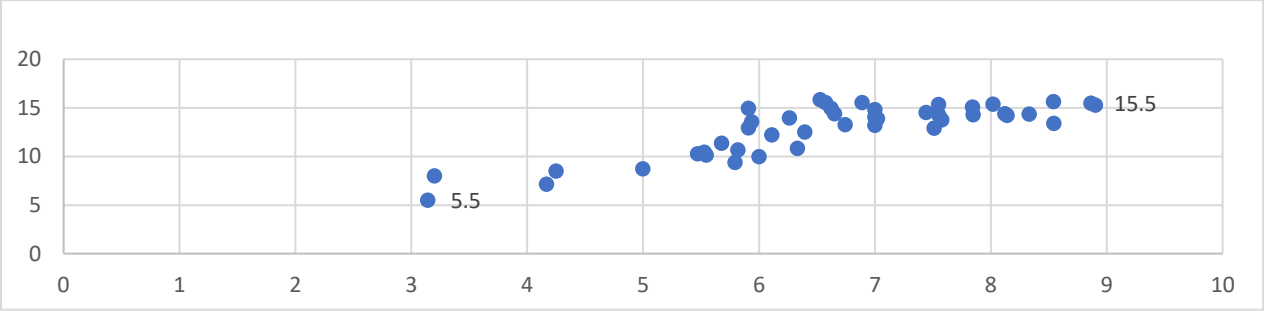
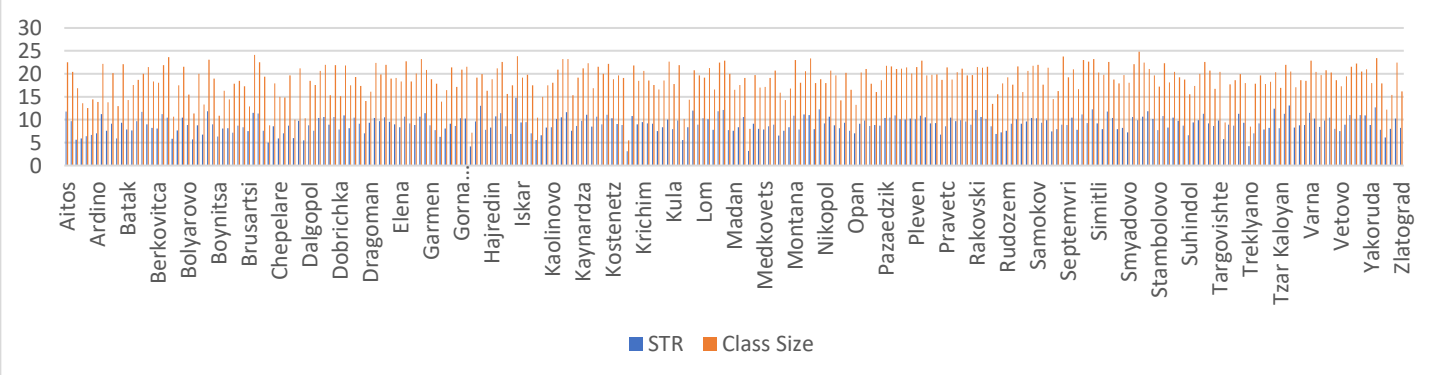


Figure 1.17. STR and class size distribution at the municipal level



Note: A full list of municipal data is provided in Annex 5.

[14] An analysis of variance (ANOVA) was conducted to better explain differences in qualification levels by all these factors for both primary and secondary schools and preschools. ANOVA is a collection of statistical models used to study the differences among group means in a sample. Given that there are several categorizations of school groups (by student characteristics, teacher characteristics, and geographic location of schools by region or municipality), this analysis helps with an appropriate approach. Results show that regional and municipal differences help explain a proportion of the observed differences in STR across Bulgaria: regional differences explain 6 percent and 14 percent of STR differences in primary/secondary schools and preschools, respectively. Municipal differences explain 12 percent and 22 percent of STR differences in primary/secondary schools and preschools, respectively.

Table 1.5. Basic statistics for STR by region (only primary and secondary)

	Average	Standard deviation	P10	P90	Number of schools
Sliven	6.0	3.0	2.0	10.1	61
Gabrovo	7.1	3.6	3.0	13.1	72
Targovishte	7.8	3.0	3.4	12.1	83
Sofia	8.3	2.6	4.6	11.2	50
Plovdiv	8.3	3.3	5.0	13.1	70
Varna	8.4	2.6	5.1	12.2	68
Razgrad	8.4	2.7	4.9	11.8	65
Ruse	8.4	2.2	5.3	11.0	45
Pleven	8.5	2.8	4.6	12.6	59
Blagoevgrad	8.5	2.6	4.7	11.7	123
Montana	8.6	3.1	4.3	12.8	40
Smolyan	8.9	3.0	5.0	12.7	97
Pazardzhik	8.9	2.4	5.8	11.7	105
Lovech	8.9	2.8	5.4	12.0	111
Dobrich	9.0	2.5	6.0	12.0	41
Shumen	9.0	2.6	6.0	12.0	70
Kardzhali	9.1	3.1	4.4	12.0	54
Haskovo	9.1	2.9	6.3	12.8	32
V. Tarnovo	9.1	2.9	5.1	12.2	31
Kyustendil	9.1	2.7	5.3	12.1	60
Pernik	9.2	3.0	5.1	12.8	194
Vidin	9.6	3.8	3.6	13.6	266
Stara Zagora	9.6	3.4	4.9	13.7	123
Burgas	9.8	3.7	5.7	14.2	137
Sofia cap.	9.8	3.0	6.1	13.4	120
Silistra	9.9	3.2	4.9	13.8	69
Vratsa	9.9	2.6	6.5	13.0	77
Yambol	10.5	2.7	6.7	13.6	43

Note: P10 and P90 refer to the percentiles 10 and 90 of the distribution of STR per school for every region.

Table 1.6. Basic statistics for STR by region (preschool)

	Average	Standard deviation	P10	P90	Number of preschools
Varna	9.4	1.7	3.0	14.8	86
Pleven	9.8	2.2	5.0	15.5	49
Razgrad	9.8	1.9	4.5	12.9	98
Sliven	9.9	2.0	3.0	15.5	49
Gabrovo	10.1	2.9	3.5	15.6	60
Sofia	10.3	1.6	6.0	13.3	21
Haskovo	10.5	1.8	6.5	18.0	25
Plovdiv	10.8	1.5	0.8	14.5	39
Targovishte	10.8	1.8	4.7	15.5	74
Ruse	10.9	2.3	6.6	15.5	24
Pazardzhik	11.0	1.8	4.0	14.5	76
Kardzhali	11.1	2.2	7.0	16.4	32
V. Tarnovo	11.1	2.0	8.6	15.6	19
Shumen	11.2	1.7	7.2	16.5	44
Pernik	11.6	2.0	3.5	22.8	162
Kyustendil	11.6	1.9	8.0	21.0	48
Sofia cap.	11.7	1.6	6.0	16.8	78
Yambol	11.7	2.1	8.2	16.6	19
Stara Zagora	11.8	2.4	4.4	17.2	97
Blagoevgrad	11.9	2.1	2.7	16.0	70
Silistra	12.0	2.6	6.0	20.0	61
Vratsa	12.1	1.7	6.7	16.3	37
Dobrich	12.3	1.7	9.3	16.5	19
Smolyan	12.4	2.4	6.0	26.0	74
Lovech	12.4	2.2	4.5	16.8	75
Montana	12.5	1.6	7.5	16.5	22
Vidin	12.7	3.0	0.5	21.4	272
Burgas	12.7	2.1	7.0	20.8	109

Note: P10 and P90 refer to the percentiles 10 and 90 of the distribution of STR per school for every region.

Workforce distribution and school characteristics

Location and workforce trends: Schools in medium- or large-size municipalities have a larger proportion of teachers with higher ITE degree levels and with PQDs and, to a lesser extent, aged teachers.

Regarding urban and rural differences, data show that schools in medium- or large-size municipalities have a larger proportion of teachers with higher ITE degree levels and with PQDs and, to a lesser extent, aged teachers. This is the case for both schools in primary/secondary and preschool education. Small municipalities are defined as those with less than 1,500 students (approximately 10,000 to 15,000 total population). This follows the definition of PISA that considers settings with less than 15,000 population as rural. Trends cannot be displayed due to limitations in data available for the analysis as schools which closed before 2018 could not be identified in terms of location (both municipality and region).

Figure 1.18. Teacher characteristics by school location (2018) - primary and secondary

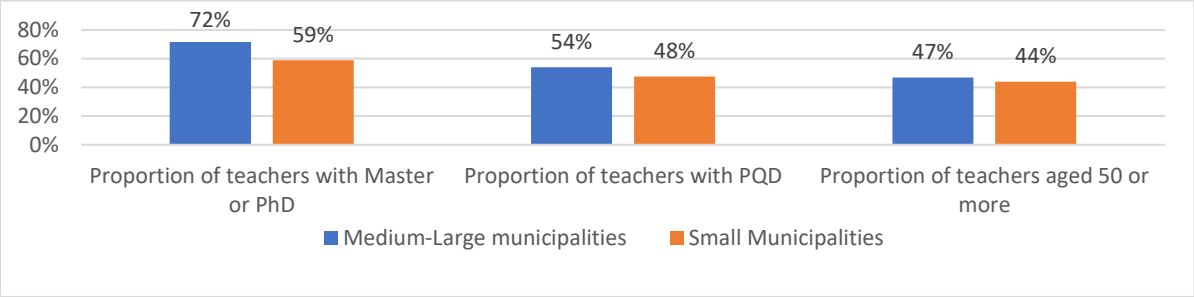
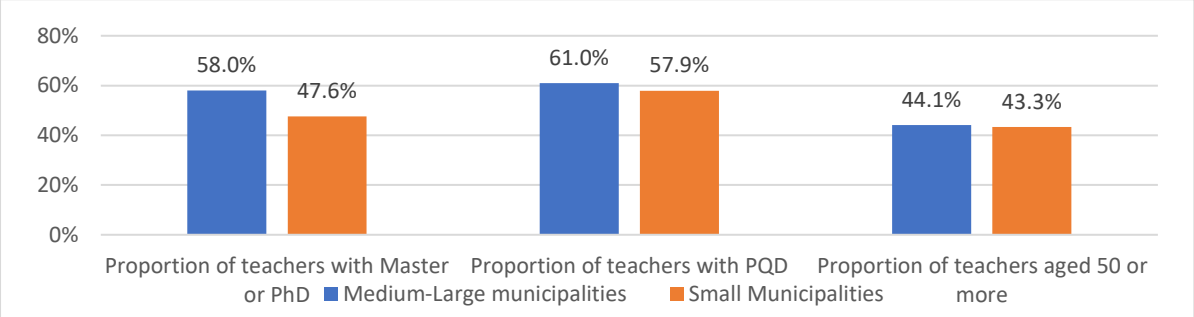


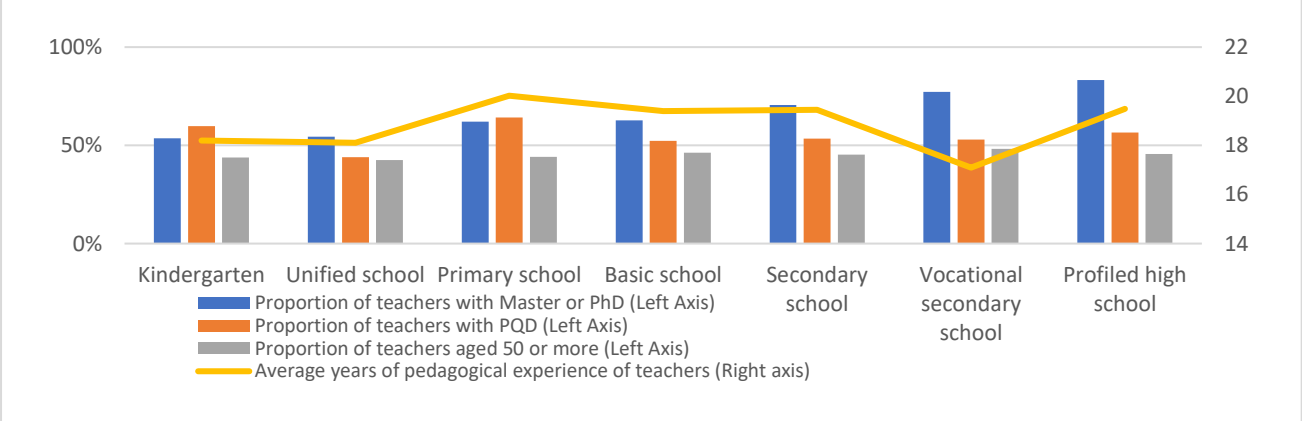
Figure 1.19. Teacher characteristics by location (2018) - preschool



Workforce and type of schools: Secondary schools have a higher proportion of teachers with high levels of ITE degree levels, while preschools, unified schools, and primary schools have a lower proportion.

Secondary schools have a higher proportion of teachers with high levels of ITE degree levels, while preschools, unified schools, and primary schools have a lower proportion. With respect to the proportion of teachers with PQD or the age of teachers, no apparent differences are observed (2018), except for preschools and primary schools, where the proportion of teachers with PQD is higher than in the rest. Finally, primary, basic, and secondary schools as well as profiled high schools have teachers with more years of pedagogical experience in comparison with preschools, unified schools, and vocational secondary schools.

Figure 1.20. Teacher characteristics by school type (2018)

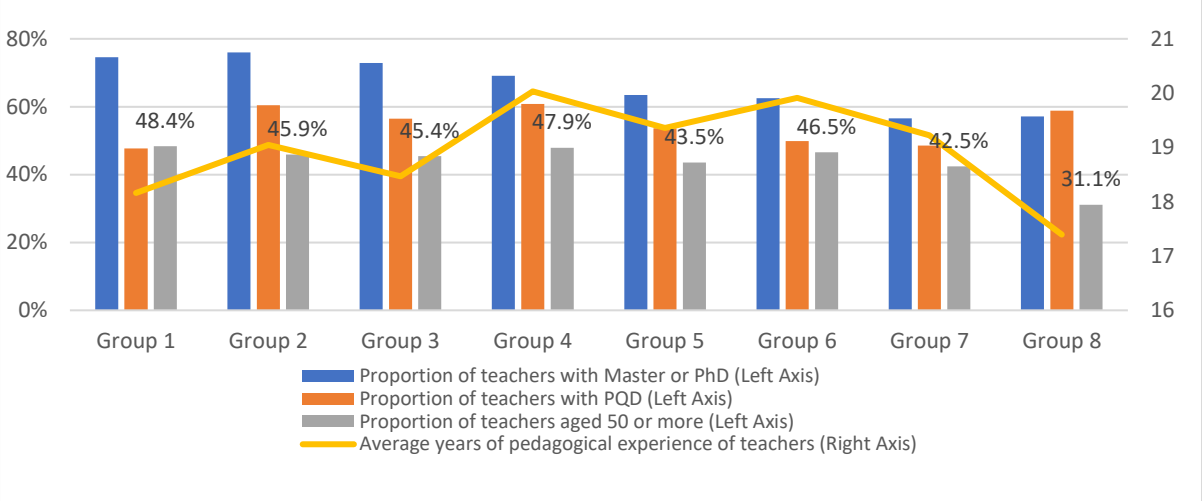


Workforce and type of funding: School funding group 8 has a younger workforce, with less pedagogical experience and lower ITE degree levels. Similar characteristics are observed for preschool workforce. This might indicate a need for a special program addressing workforce and assessment of outcomes addressing both workforce and learning (refer to Chapters 2 and 5).

When school characteristics are presented by group category of schools following school funding characteristics (based on municipal funding groups 2018[15]), specific differences related to workforce are observed. This is based on a funding formula which has evolved over the years based on various characteristics, such as school size or school characteristics. The Ministry of Finance has changed the grouping of schools a number of times following the change in the funding approach and the use of the formula to be supportive to small schools:

- Schools that fall under municipal funding groups 1, 2, 3, and 4 have a higher proportion of teachers with high ITE degree levels.
- There are no relevant differences in the share of teachers with PQD (with the exception of group 4).
- Regarding age and pedagogical experience, however, groups 7 and 8 display a younger teacher population with less years of experience on average.

Figure 1.21. Teacher characteristics by school funding group category (2018) - primary and secondary



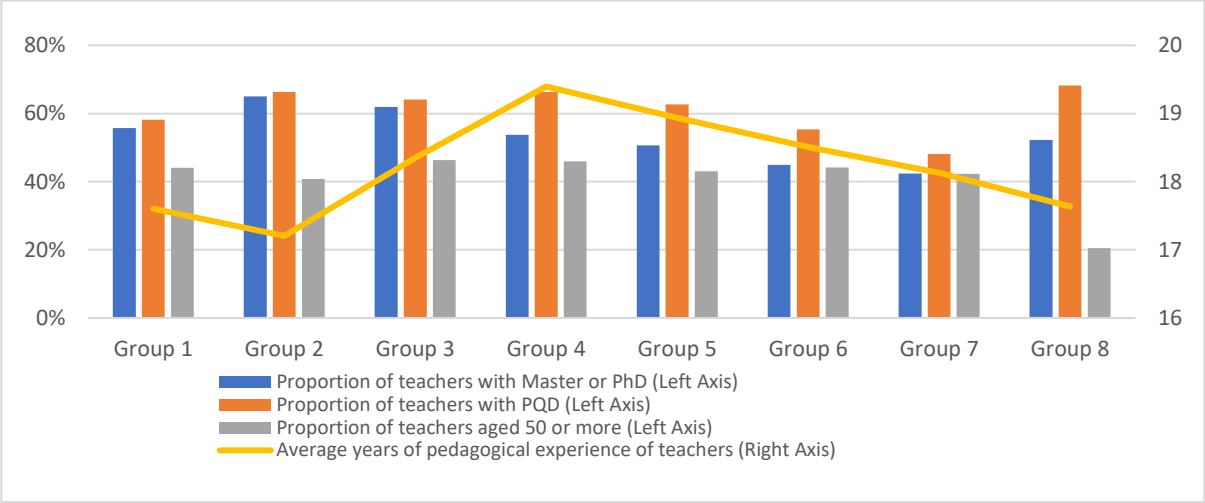
When preschools' workforce characteristics are observed by applying the same grouping for school funding,[16] the following trends are observed:

- Preschools that fall under funding groups 1, 2, and 3 have a higher proportion of teachers with high ITE degree levels coinciding with school trends.
- In contrast to schools, relevant differences are observed in the share of teachers with PQDs with preschools in funding groups 2, 3, 4, and 8 having a higher share of teachers with PQDs.
- As is the case with schools, preschools in group 8 have a much younger teacher population.
- Groups 2 and 8 have a teacher population with less years of pedagogical experience relative to the rest.

[15] This indicator is used to substitute for the lack of provision of data on school budgets.

[16] The funding approach for preschools differs from that for schools but for the purposes of observing workforce trends preschools are organized using the same funding groups as schools.

Figure 1.22. Preschool teacher characteristics associated with school funding group category (2018)



The cutoff value of '10 teachers' does not determine differences in school workforce characteristics. The possibility of smaller schools (employing less than 10 teachers) exhibiting different workforce characteristics was analyzed. Teaching staff of 10 is the threshold below which the principal is responsible for evaluating teachers whereas in schools with more than 10 teachers the pedagogical council is also involved in the evaluation. As shown in Figures 1.22 and 1.23, there is no observed change in teacher characteristics around the cutoff value of 10 teachers per school, which means that the shift in teacher appraisal responsibility does not seem to be related to different principal decisions over staff.

Figure 1.23. Teacher characteristics by number of teachers at the school around cutoff of 10 teachers (2018) - primary and secondary

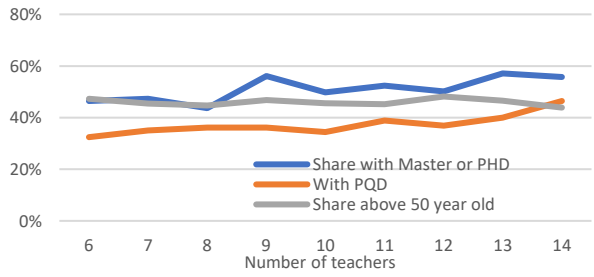
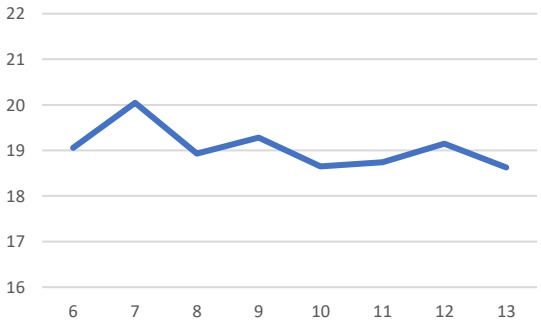


Figure 1.24. Average years of experience by number of teachers at the school around cutoff of 10 teachers (2018) - primary and secondary



Workforce with management functions

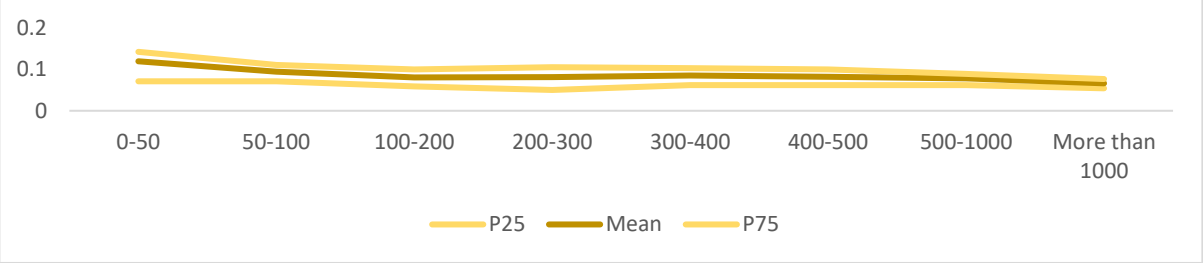
The number of teachers with management functions in school education in Bulgaria constantly increased to reach 10 percent in 2018. In 2018, a total of 7,169 principals' and deputy principals' functions were assigned in school education. During the same period, there was a drop of approximately 3 percent in the number of teachers involved in management in preschools education to reach, in 2018, 14 percent of teaching workforce assigned with management functions.

The number of management positions as a share of total teacher positions ('management ratio'[17]) decreases with school size (as measured by the number of students), especially from very small schools to middle-size

[17] This analysis builds on the quantity of school principals and deputy principals at every school in Bulgaria. Basic descriptive statistics on the number of school management positions (principals and deputies) relative to school characteristics are presented. A 'management ratio' indicator—management positions relative to number of teachers—is built for every school.

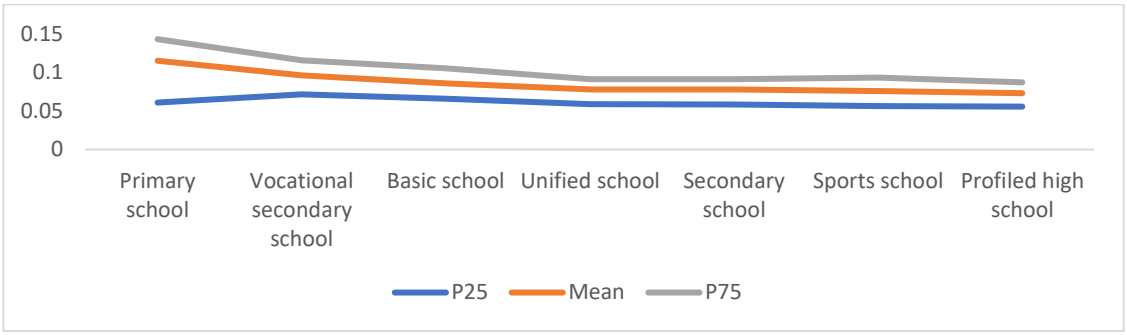
schools. This is consistent given the economies of scale that stem from having larger schools in terms of management. Nevertheless, although the share decreases are heterogeneous, there is important variation within school size groups.

Figure 1.25. Number of management positions as a share of the total number of teachers by school size (all years)



Moreover, differences are also relevant when exploring the 'management ratio' by school type. Primary schools, in particular, tend to have higher management ratios relative to basic and secondary schools. This is mostly related to the fact that primary schools tend to have, on average, a lower number of students than basic or high schools.[18]

Figure 1.26. Number of management positions as a share of total teachers by school type



To dig deeper into this variability of the management ratio for every school size group, a statistical model was conducted to understand the relation between the management ratio and student outcomes measured by SVAM, controlling for school size. In particular, the model aims at understanding whether a lower management ratio leads to higher school effectiveness or school quality as measured by SVAM. Bulgaria SVAM data for 2015 were used given their reliability and coverage of schools for both grades 4–7 and grades 7–12. For grades 4–7, results suggest that a lower management ratio has a positive relation with learning outcomes for larger schools, indicating some measure of efficiency among those larger schools using lesser number of management positions for new positions available. For grades 7–12, no interaction effect was observed relating to the management ratio and SVAM, independent of school size.

Main messages and conclusions addressing teaching workforce

Teaching workforce age profile: Preschool and school education are experiencing diverse dynamics in workforce development. The evolution of the teacher workforce shows a gradual process of ageing and increase in years of experience of the teacher population in primary and secondary education. In preschool, a progressive decrease of teacher age and years of experience is observed.

[18] In 2018, primary schools had an average number of 254 students, as opposed to 446 in basic schools, 790 in secondary schools, or 779 in profiled high schools.

ITE profile of teachers have gradually improved in time in both school education (primary and secondary) and preschool education.

Distribution of workforce basic characteristics (urban and rural): Teachers with higher levels of education, PQD level, or age tend to be concentrated more in schools located in urban or middle-size settlements. This is the case for both primary/secondary schools and preschool. In addition, secondary schools tend to concentrate teachers with higher initial education attained, while primary schools tend to concentrate more experienced teachers.

Distribution of teachers based on student demand (as measured by STRs): There is a larger proportion of teachers with higher levels of initial education in schools with higher STRs for both primary/secondary schools and preschool. Similarly, teachers with higher pedagogical experience (and age) tend to be more concentrated in schools with higher STRs, both for primary/secondary schools and preschool. Variations in STR are mostly distributed across municipalities while at the regional level the STR differences are not significant, indicating the need to focus policy responses to school specifics at the local level.

Distribution of teachers based on funding for schools: The municipal funding group[19] category, which determines funding for separate schools, is not related to large differences in teacher workforce composition. Still some specifics of teaching workforce are present:

- Municipalities under funding groups 7 and 8 display a younger teacher population with fewer years of experience that might trigger policy specific programs
- Municipalities under funding groups 1, 2, 3, and 4 have a higher proportion of teachers with high ITE degree levels, indicating specific needs and focus.

Distribution of deputy principals: There seem to be different patterns in hiring deputy principals by schools; although school size matters a lot for understanding the ratio between management and teaching positions, a wide variation is observed for schools of the same size. This indicates different management decisions for human resource allocation.

[19] School funding is based on a methodology that addresses specific local level peculiarities and groups municipalities into funding groups that define some of the components of the funding formula.

CHAPTER 2. Learning at the Core: Setting the Stage to Enhance Student Outcomes

As noted in the analytical framework, learning—not schooling—is the core objective of all educational policies, and this is the foundational principle for this analysis. In line with this principle, this chapter addresses workforce challenges within the larger policy framework and describes the implications of sector challenges and of the government's vision for reform for strengthening teacher policies and enhancing workforce planning. Evidence on student learning outcomes in Bulgaria based on international large-scale assessments and SVAM data is presented to highlight evidence and implications for teacher workforce management and planning.

The analytical review of teacher policies in Bulgaria, which focuses on the human resource trends in the education sector, is oriented toward the central guiding principle that the objective of all education policies is learning rather than schooling.[20] Learning is at the heart of any educational system, yet evidence from student results shows that schooling (enrolling in and attending school) is not the same as learning. This means that coherence in terms of vision and policy is required to align expectations with efforts toward learning. Putting learning at the core requires coherent and aligned policies that establish clear definitions of learning goals and clear expectations for students in terms of learning outcomes (competences) and for teachers in terms of professional competences and practices. It requires ownership of learning goals,[21] incorporating national, regional, and local priorities and perspectives. It also requires recognition of diversity among learners and communities and flexibility for teachers to differentiate their approaches to meet diverse learning needs and goals. Learning at the core, as a main principle underlying all teacher policies, is consistent with the policy aims outlined in Bulgaria's priorities for the sector.

This chapter presents an overview of education policy developments and outcomes that address the learning of children and students in preschool and school education with the key goal of identifying critical areas of opportunities and needs that could inform teacher policies. The analysis is based on a desk review of preschool and school education reforms and policy developments and refers to evidence on learning outcomes that are available for the different educational levels and have been accepted as a baseline to inform the relevant steps forward with respect to teacher policies. After reviewing the key educational outcome indicators based on learning evidence, an analysis of policy needs, and possible steps has been proposed. Finally, a brief overview of programs and initiatives that address teacher policies (teacher policy mix) has been presented.

Directions for learning outcomes and schooling: A review of educational and learning indicators

In introducing policy changes leading to improvement of learning outcomes, Bulgaria is from the outset lagging behind EU and OECD countries. School and preschool enrollment (informed by enrollment, attendance, and dropout rates) is still a topic of key importance in Bulgaria that dominates the policy priorities targeted at the population vulnerable with respect to education and the respective implementation program packages. Indicators that address schooling and the associated dropout and attendance profiles have dominated overall policy planning since 2014 and have influenced significantly the most innovative policy aspects related to digitalization; innovations; science, technology, engineering, and mathematics (STEM); and civil culture. The National Strategy for Lifelong Learning (NSLL) and the package of related education strategies in 2014–2020 aimed at building a strong system focused on improving the participation in formal and informal education in line with the framework for European cooperation in education and training benchmarks. The review of NSLL indicators relevant to preschool and school

[20] The principle is derived from the analysis providing the base for the 2019 World Bank World Development Report

[21] Workforce that is motivated and actively participates in achieving the learning goals outlined in key policy and strategic documents.

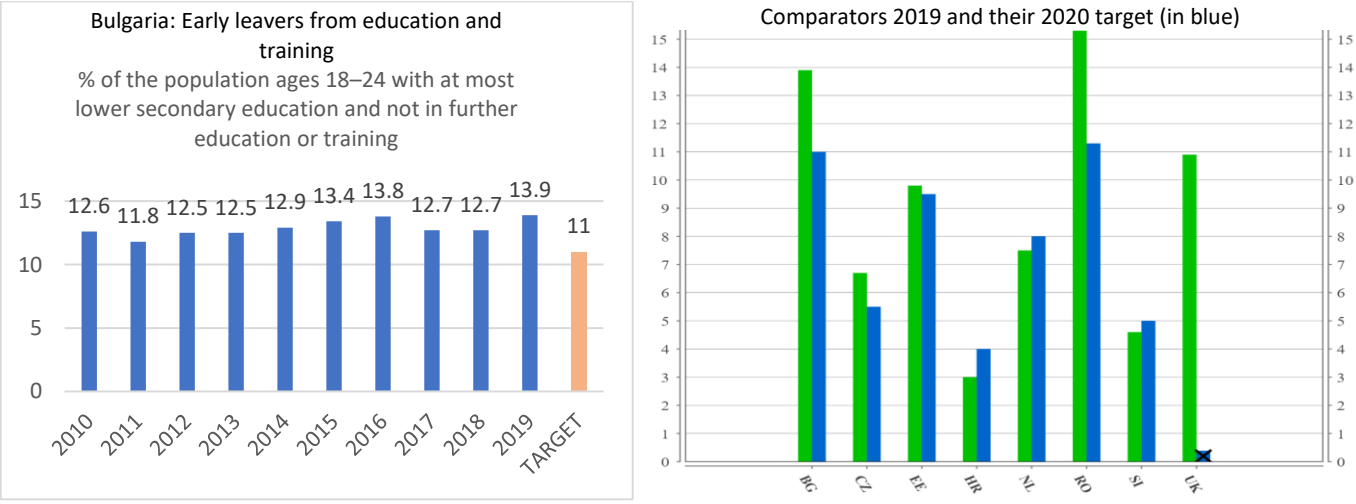
education linked with relevant EU 2020 goals illustrates that, overall, the education system is still struggling to contribute to the package of EU 2020 indicators on both schooling and learning policy strands.

Table 2.1. Bulgaria and EU 2020: NSLL indicators contribution to EU education policy targets

EU 2020 goal (education)	Bulgaria 2020 goal (education)
Population ages 25–64 participating in lifelong learning—min 15%	Increasing the participation rate of those ages 25–64 in Life-Long Learning from 1.5% to 5% in 2020
	Share of public expenditures in education to improve lifelong learning participation rate from 3.4% in 2010 to 4% in 2020
Share of children ages 4 to compulsory school age in early childhood education and care (ECEC) – min 95%	Share of children ages 4 to compulsory school age in early ECEC—min 90% in 2020
Share of early school leavers from education and training lower than 10%	Share of early school leavers lower than 11% in 2020
	For *primary level* from 2.3% in 2011 to 1.5% in 2020
	For *lower secondary level* from 3.1% in 2011 to 2% in 2020
	Decreasing the share of illiterate people ages 15–19 from 2% in 2011 to 1.5% in 2020
	Decreasing the share of illiterate people ages 20–29 from 2% in 2011 to 1.5% in 2020
Share of 15-year-old students attaining below level 2 in reading, mathematics, and sciences lower than 15% (PISA)	Share of students ages 15 attaining below level 2 in reading and sciences is lower than 30% and lower than 35% in mathematics (PISA) in 2020

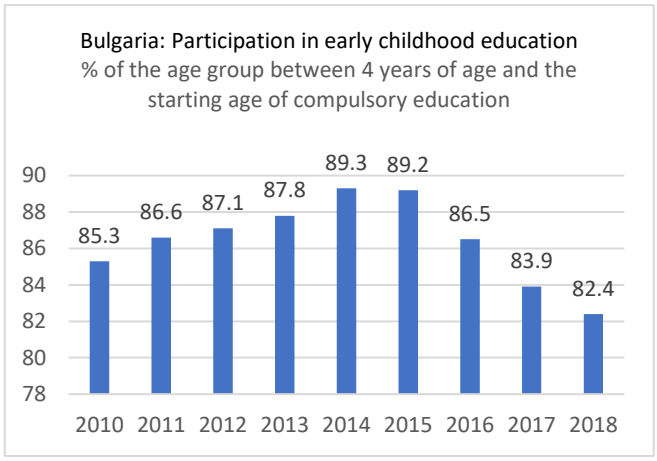
EU 2020 data reveal stagnating outcomes and systemic differences with comparator countries on enrollment and attendance at both school and preschool levels. Figures 2.1 and 2.2 indicate the trends and magnitude of the challenges to ensure school access in comparison to EU comparators based on Eurostat data.[22] As of 2018, Bulgaria registered one of the highest EU values of dropouts with or below lower secondary education. In ECEC enrollment, the comparator countries demonstrate a stable trend in maintaining and increasing the levels of enrollment, which is still not observed in Bulgaria.

Figure 2.1. Bulgaria and EU 2020 indicators: Early leavers from education and training

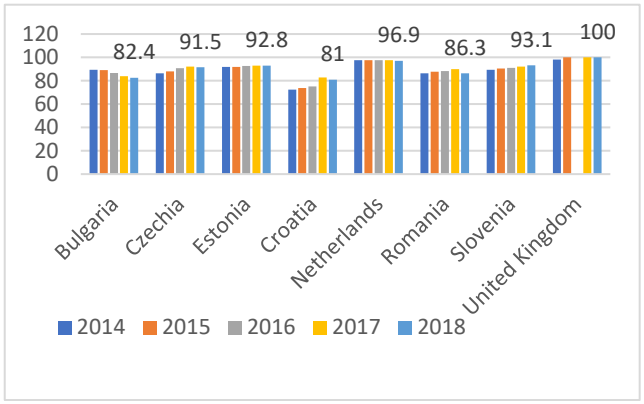


[22] National-level data not available for the analysis.

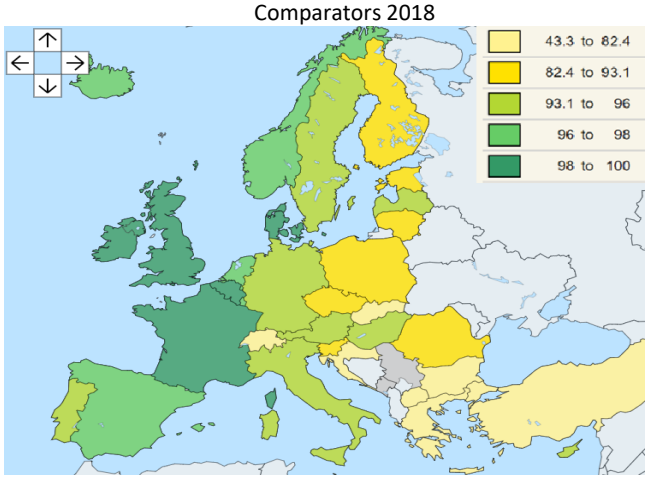
Figure 2.2. Participation in early childhood education: % of the age group between 4 years of age and the starting age of compulsory education



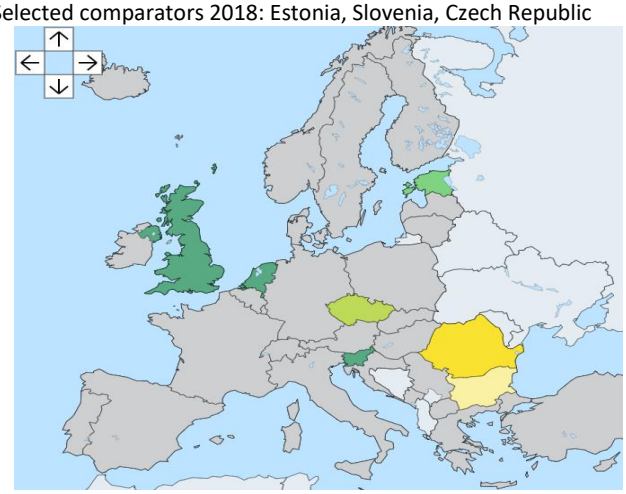
Comparators: 2014–2018 dynamics (2018 data displayed)



Comparators 2018



Selected comparators 2018: Estonia, Slovenia, Czech Republic



Source: Eurostat copyright of administrative boundaries: ©EuroGeographics; commercial redistribution is not permitted; last update: June 8, 2020; date of extraction: June 28, 2020 00:19:20 CEST; hyperlink to the map: https://ec.europa.eu/eurostat/tgm/mapToolClosed.do?tab=map&init=1&plugin=1&language=en&pcode=sdg_04_30&toolbox=legend; hyperlink to the graph: https://ec.europa.eu/eurostat/tgm/graph.do?pcode=sdg_04_30&language=en.

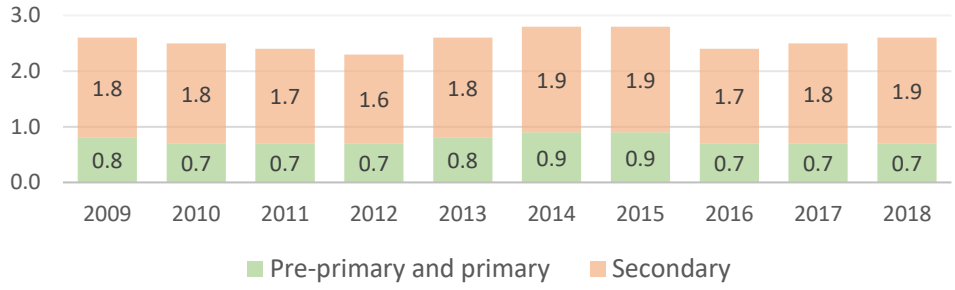
To address the challenges related to participation in education, MOES has built a policy response addressing four key segments: (a) preschool participation, (b) efforts for re-enrollment of children and students who dropped out of education, (c) CPD support for teachers working with vulnerable groups of preschool and school students aimed at preventing dropout through addressing individual needs, and (d) attempts for flexible provision of education services aiming at retention of students at risk of dropout, including through vocational education and training (VET) provision at the secondary level guaranteeing quick access to the labor market. The policy instruments include the following:

- Gradual introduction of compulsory ECEC for 4-year-olds starting from 2020/2021 school year. As of July 2020, legislative amendments were initiated to guarantee the process. Data for 2018 demonstrate enrollment rates in the context of noncompulsory participation for 4-year-olds are still not meeting indicators set nationally or at the EU level. Both literature and context-specific analysis for Bulgaria provide evidence on the positive correlation between years in ECEC and later educational outcomes.

- To address dropout rates and preschool and school enrollment and participation, in 2017/2018 school year MOES initiated a nationwide policy instrument aimed at identifying, assessing, and ensuring the reintegration of dropout students in the education system. This multisectoral approach called the 'Mechanism for Joint Work of Institutions to Ensure Coverage Enrollment and Prevention of Dropout of Children and Students in Compulsory Education Age in the Education System'[23] was transformed into a permanent systemic process integrating education and social security measures as a core platform for locally based actions focused on enrollment and retention in education. To observe the effects of the initiative, MOES also monitors general key performance indicators which will allow for tracking of dropouts, profiling flows of students, and packaging of a tailored response that address both educational and social vulnerability on the basis of identified student characteristics and factors. In addition, dropping and reintegration practices could be subject to school development and special programs that are not only initiated by schools but are managed at the national or regional level depending on the local needs and specificities.
- Following the reforms initiated by the PSSEA in 2016, MOES gradually introduced and implements special programs addressing education of vulnerable student groups and dropouts: (a) introduction of additional educational support for struggling students, integrated as a package of general education services; (b) NPDEs; and (c) specialized EU-funded programs. Overall, those instruments need better coordination as well as regular and systemic evaluations to learn from practices and guide policy steps. The key challenges in understanding the outcomes of all investments lie in the fragmentation of activities, the need to improve and coordinate tracking process indicators, and the insufficient assessment of the policy measures' effects and outcomes. The mix of instruments that directly address teacher policies follows the same fragmented policy approach and they have been mainly integrated as elements of the actions that prioritize enrollment.

Despite stagnant learning outcomes, the amount of public funds allocated to preschool and school education in Bulgaria remains among the lowest in the EU accounting for 3.5 percent of gross domestic product (GDP) in 2018, which is significantly below the EU-27 average of 4.6 percent).[24] About 71 percent of the government budget for education (equivalent to 2.5 percent of GDP) is allocated to preprimary (ISCED[25] 0), primary (ISCED 1), and secondary (ISCED 2-3) education with secondary education representing the largest spending block equal to 1.8 percent of GDP in 2017.

Figure 2.3. Total public expenditure by level of education as percentage of GDP

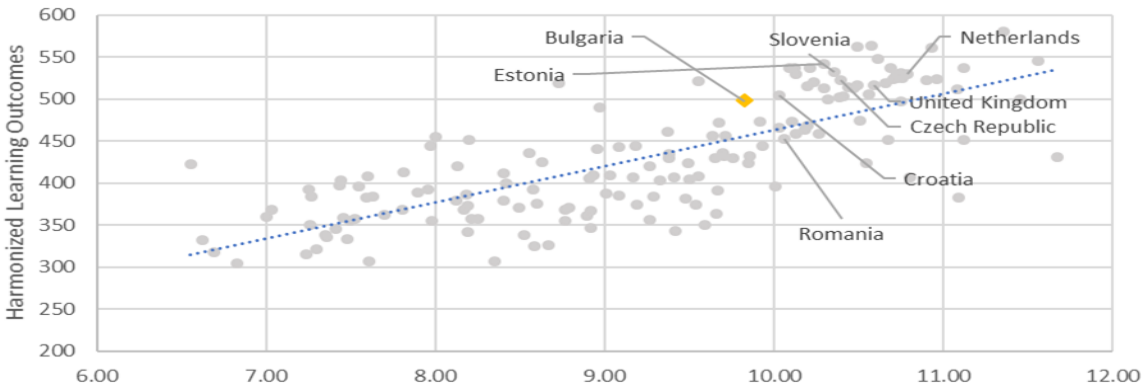


Source: Eurostat, data code: [gov_10a_exp].

[23] Established with CoM decree No. 100 of June 8, 2018.
[24] Source: General Government of Finance and Statistics according to the Classification of the Functions of Government (COFOG), available from Eurostat. Latest available data for 2018.
[25] ISCED = International Standard Classification of Education.

The 'harmonized learning outcomes' indicator (combining PIRLS and PISA results) shows that Bulgaria performs above the expected given the country's income level.[26] This is due to the strong learning outcomes at the primary level in comparison to countries with similar income as evidenced by PIRLS and TIMSS. Harmonized learning outcomes in Bulgaria are equal to 498, better than the average for upper-middle-income countries (428) but lower than the average for the EU (515). This score is also much lower than that of the top performing country of Singapore (581) and much lower than the advanced threshold of 625 representing advanced attainment. Bulgaria needs to build on that strong position in primary education to direct the policy steps needed to address the learning outcomes gap in comparison to EU and OECD countries. As demonstrated below, Bulgaria should focus on learning policy goals aimed at eliminating learning poverty, improving learning outcomes at lower and upper secondary education levels, and introducing policies that build on the current efforts to achieve sustainable enrollment of vulnerable groups of children and students.

Figure 2.4. Log of GDP per capita in 2017 or latest purchasing power parity (constant 2011 international US$), World Bank

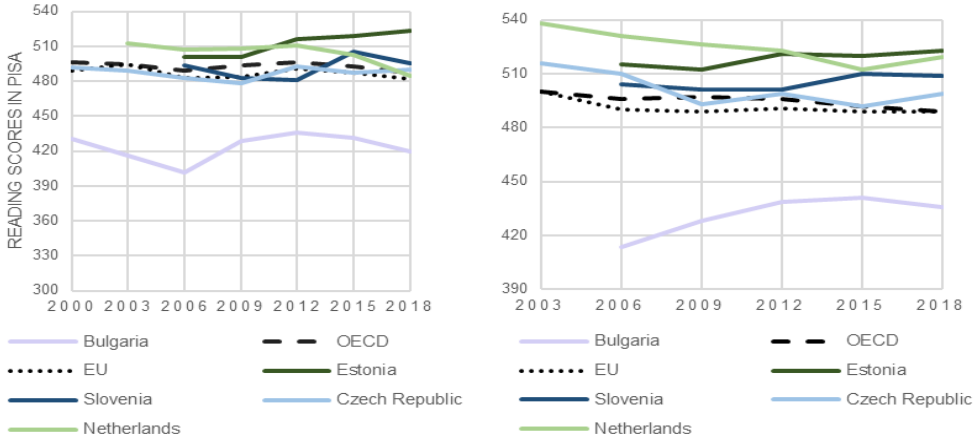


Secondary education: Learning outcomes have not changed much over the past 12 years, indicating the need for a fundamental change in teaching and learning approaches. Since 2000 Bulgaria has been a regular participant in PISA, which provides internationally comparable data on secondary education. Student results are persistently below the expected performance levels based on Bulgaria's income level. Compared to the OECD countries, students in Bulgaria performed 67 points lower (roughly more than one-and-a-half years of schooling) in reading. Data demonstrate systemic differences with the comparator countries selected on the basis of system comparability and the presence of priority investment and focus on teacher policies.[27] The 2018 PISA was held before the introduction of the new curriculum for grade 9 and does not reflect the potential effects of the policy efforts on the competence-based approach in learning initiated in 2019. The 2018 PISA results reflect the outcomes of the initial period of system responses introduced by the PSSEA in 2016 to address persistent learning results challenges, that is, provision of additional education support to struggling children and students as part of the general education package and the increase of NPDEs, launching national projects funded by the European Social Fund (ESF) addressing predominantly vulnerable groups of students.

[26] The harmonized learning outcomes indicator was developed and launched by the World Bank in 2018 to harmonize test scores from large-scale assessments in education with the aim of measuring education around the world by actual learning outcomes and putting learning in the central focus of national education policy reforms.

[27] Detailed presentation of the three selected comparator countries is presented in Chapter 5.

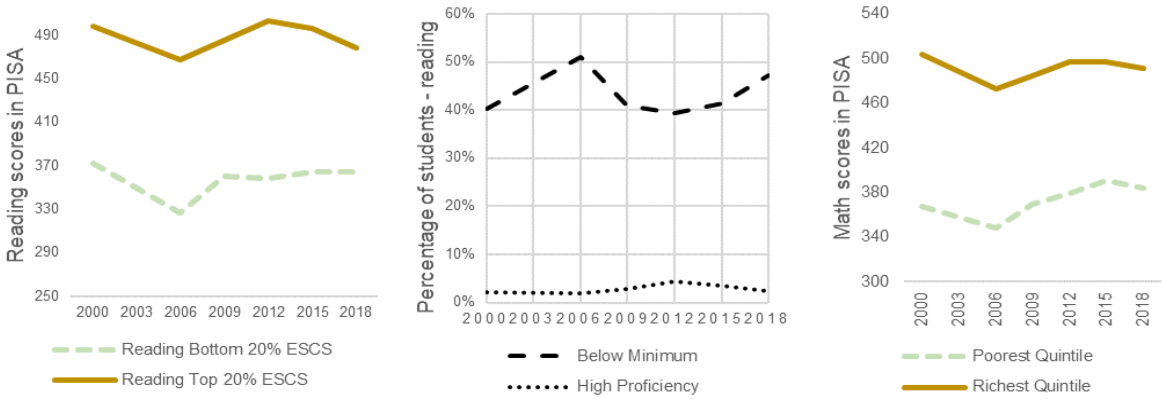
Figure 2.5. Bulgaria and comparators: Outcomes in reading (PISA 2000–2018)



Between 2015 and 2018, results in reading, math, and science showed a decline in secondary education and were behind the 2020 strategic policy goal for learning aiming to reduce the share of 15-year-old students attaining below Level 2 in PISA to less than 30 percent in reading and sciences and to less than 35 percent in mathematics. PISA 2018 data show that 47 percent of students in the country fail to attain basic proficiency which is almost two times above the EU average of 24 percent. A similar percentage of students fail to attain basic proficiency in mathematics and science (44 percent and 47 percent, respectively). The Bulgarian education system is characterized by high inequities between the top and bottom income groups with the latter lagging behind by 114 points, which is equivalent to almost 3 years of schooling. Similarly, students in rural schools fall behind by 80 points which is equivalent to two years of schooling. Girls greatly outperform boys, which is a trend seen in the region. Similarly, large socioeconomic achievement gaps exist in mathematics and science with students from the bottom income groups performing 107 points and 111 points (close to three years of schooling), respectively, below the students in the top income group. Also, the achievement gap has not closed much since 2000 when students belonging to the bottom income group performed 126 points below students from the top income group.

There is a small percentage of Bulgarian students performing at high levels of proficiency (Levels 5 and 6 in PISA). In reading, 2.3 percent of the 15-year-old students in the country are highly proficient compared to the average of 8 percent for the EU. Similarly, a smaller percentage of students perform at high proficiency levels in math and science in Bulgaria—4.2 percent and 1.5 percent, respectively, in comparison with the EU average of 10 percent and 6 percent, respectively. The percentage of high performers has not changed significantly over time and has even dropped slightly since 2012.

Figure 2.6. High performers in reading: PISA (2000–2018)



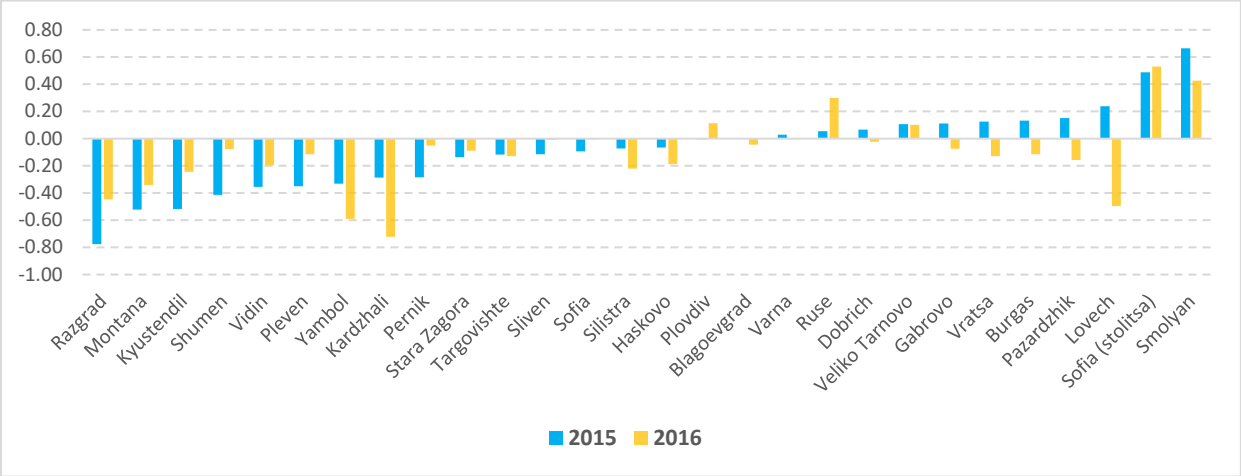
The national learning assessments for grades 7–12 interpreted through SVAM analysis[28] demonstrate large differences in learning outcomes across secondary schools, with profiled schools obtaining large SVAM scores, general schools obtaining above average SVAM estimates, and vocational schools obtaining negative and low SVAM scores.[29] To inform school-specific performance and needs, and to guide policy development, in 2018 the World Bank developed the SVAM—an indicator addressing learning outcomes and socioeconomic status of children for all schools teaching grades 5–7 and 8–12 in Bulgaria. The numbers reveal that the school tracking process after grade 7 plays an important role in determining the schools' further contribution to student learning. Overall, early tracking has been previously identified as related to social segregation patterns in secondary education.[30] Even after controlling for students' socioeconomic status, the SVAM model reveals these same segregation patterns. To understand the role of school-level policies and school management and resources in the condition of strong segregation, MOES needs to track and assess the policies of different groups of schools and use the information to inform programs for school support. SVAM data on secondary education schools provide a good opportunity to better understand the differences between student tracks (secondary general schools, vocational gymnasiums, and upper secondary profiled schools). They also help understand student composition and the way segregation patterns may influence test scores in grade 12 and hence student opportunities in adult life. Regional differences account for more than standard deviation of 1 in SVAM scores, demonstrating large differences in school quality (as measured by the SVAM model) for upper secondary schools. The observed differences across regions reveal structural gaps that require careful analysis of the cumulative effects of financing, teacher quality, access to preschool, cultural specificity of student populations, and specific response to the needs of school support programs.

[28] Gortazar et al. 2014.

[29] The presented data are still valid given the lack of systematic steps and the development of assessment of results intended to provide in-depth reflection and analysis of the factors that determine learning outcomes. The analysis purposefully used data that reflect data on results in combination with data on the socio-economic status of students / their families, considered at the school level and measuring the effectiveness of educational institutions. Unlike international studies, in which these characteristics are systematically monitored (presented above), the Ministry of Education and Science still does not have a practice of standard monitoring of learning outcomes that are in the context of the social environment of students.

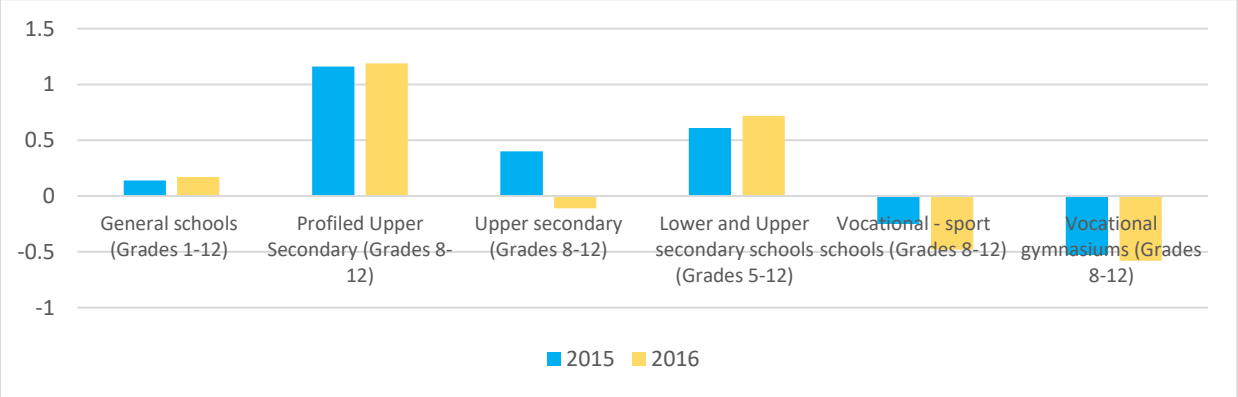
[30] Ibid.

Figure 2.7. Bulgarian language outcomes for grades 7–12: SVAM scores by region for 2015 and 2016



Source: World Bank, based on MOES external evaluation in grade 7 and matriculation exam in grade 12 Bulgarian language for 2015, 2016, and 2017.
Note: The SVAM scores have a mean of 0 and standard deviation of 1. Differences in the SVAM scores across groups are statistically significant. Model 1 was used.

Figure 2.8. Bulgarian language outcomes for grades 7–12: SVAM scores by school type for 2015 and 2016



Source: World Bank, based on MOES external evaluation in grade 7 and matriculation exam in grade 12 Bulgarian language for 2015, 2016, and 2017.
Note: The SVAM scores have a mean of 0 and standard deviation of 1. Differences in the SVAM scores across groups are statistically significant. Model 1 was used.

Lower secondary: Learning outcomes informed by national learning assessments also demonstrate large variations between regions and types of schools and indicate needs for special programs targeting learning at the lower secondary education level. SVAM 2017 estimations demonstrate that differences due to parental education level are larger for Bulgarian language than for mathematics. Overall, the results show that schools with low SVAM scores have a large proportion of students whose parents have a low education level. This is indicative of a need for a combination of 'social' approach (based on extensive social assistance-targeted programs to schools and communities with disadvantaged students) and pedagogical support. In addition, the international assessments PISA and PIRLS indicate that (a) traditionally good outcomes in reading for grade 4 students demonstrated by PIRLS[31] are not maintained during the lower secondary level, resulting in huge disparities in upper secondary outcomes in

[31] The analysis does not refer to national assessments after grade 4 due to methodology specifics identified during 2017–2018 work on SVAM, indicating that the testing instruments have been designed to measure achievement of the minimum of an educational standard.

addition to education dropout trends, and (b) students from lower socioeconomic groups experience learning gaps already at the end of the primary level demonstrated by PIRLS.

Figure 2.9. Bulgarian language and mathematics outcomes for grades 4–7: SVAM scores by primary language of use at home for 2017, national level

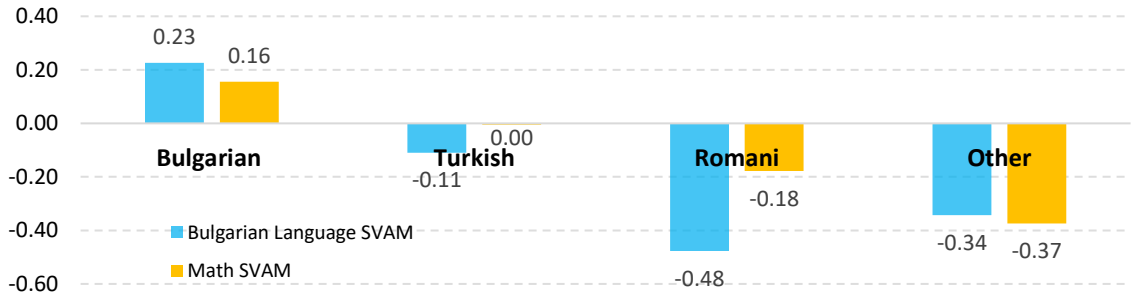
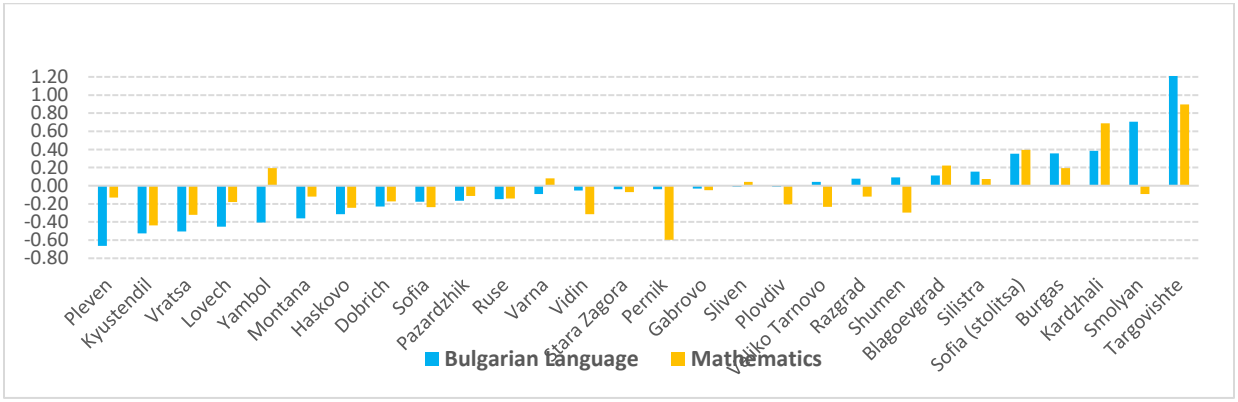


Figure 2.10. Bulgarian language and mathematics outcomes for grades 5–7: SVAM scores by region for 2015



Source: World Bank, based on MOES external evaluation in grades 5 and 7.
Note: The SVAM scores have a mean of 0 and standard deviation of 1. Differences in the SVAM scores across groups are statistically significant. Model 1 was used.

Primary education: Primary schools demonstrate high outcomes in reading with 83 percent of grade 4 students reaching proficiency level in reading (PIRLS) but face challenges in addressing low performance. About 17 percent of 10-year-olds are below intermediate proficiency level (Level 2) in reading. This result remained constant between 2001 and 2016, indicating the significant challenges faced by the education system to address learning vulnerabilities. Out of these, 5 percent perform below minimum proficiency level (Level 1). Looking at the variation of learning outcomes across schools and students in PIRLS, an outstanding of 43 percent in primary education lies between schools, with the majority of this variation being attributed to students' average socio-economic status. The socioeconomic status (ESCS[32]) in PIRLS is derived using information on parental education, occupation, and household possessions including books available at home. The between-school variation of 43 percent means that 43 percent of the differences in education outcomes across schools are explained by differences across schools, primarily by the average socio-economic status of students in the school. Other factors that can differ across schools and explain differences in learning outcomes are availability of educational materials in schools, availability of qualified teachers, and so on. Within-school variation implies differences in education outcomes that are explained by differences within the school, for-example, differences in availability of educational materials across students

[32] ESCS = Economic, social, and cultural status.

within a school and differences in student-teacher interaction between students within a school. There is a segregation of students in schools according to their socio-economic status. Students from the poorest socioeconomic quintile overwhelmingly (66 percent) attend schools with peers from the lowest socioeconomic background.

Figure 2.11. Within- and between-school variation of learning outcomes in PIRLS (2016)

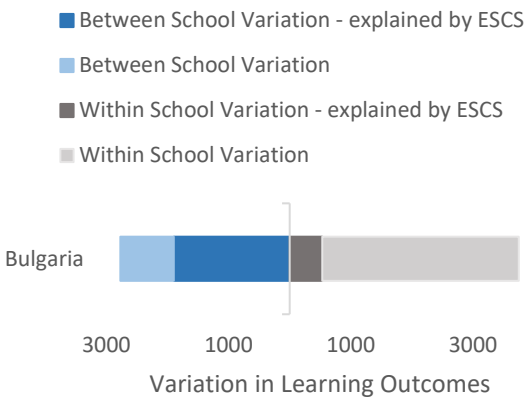
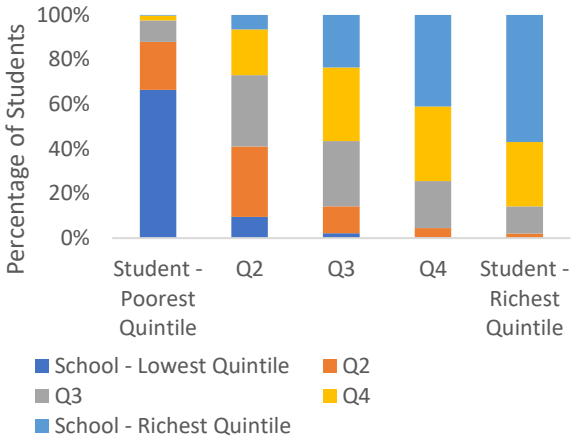


Figure 2.12. Distribution of students in schools by students' socioeconomic status



One of the key tasks of learning policies should be targeted toward eliminating the learning poverty demonstrated above.[33] The level of learning poverty in Bulgaria is 12 percent, which is almost double the average for the EU (6 percent) and four points higher than the average for OECD countries (8 percent). As in most countries, learning poverty is higher for boys than for girls. Boys are less likely to achieve minimum proficiency at the end of primary school (6 percent) than girls (4.4 percent) in Bulgaria. Bulgaria is 1.6 percentage points better than the average for the Europe and Central Asia region and 17.3 percentage points better than the average for upper-middle-income countries.

After 2016, MOES introduced a variety of programs and initiatives for schools to address those challenges faced by vulnerable groups of students. These included support for children from families where Bulgarian language is not spoken at home, tracking dropout students, fostering preschool participation, and most recently, introducing targeted programs for socially vulnerable children ensuring free access to preschool and legislative amendments for a gradual transition to compulsory preprimary education for 4-year-olds. To successfully assess and manage the effect of those steps, MOES needs to focus its attention on the specificities of schools and specialized programs for targeted support.

Preprimary education: According to school principals, school readiness in Bulgaria requires further attention and improvement. In PIRLS 2016 questionnaires, school directors identified that at least 28 percent of children were enrolled in schools where the majority of children started school without preparation (only 25 percent of them were prepared). Overall, there are no (a) systematic policy efforts to assess preschool accountability in the context of school readiness (that is, preschool outcomes) and (b) system-level instruments, shared approaches, and system

[33] Learning poverty means being unable to read and understand a short, age-appropriate text by age 10. The Human Capital Project focuses on reading because (a) reading proficiency is an easily understood measure of learning; (b) reading is a student's gateway to learning in every other area; and (c) reading proficiency can serve as a proxy for foundational learning in other subjects, in the same way that the absence of child stunting is a marker of healthy early childhood development.

capacity for assessing readiness and informing support before entering school education. The latter area has been addressed by inconsistent actions and needs to be brought forward as a policy priority.

PIRLS data demonstrate that Bulgaria lags slightly in indicators predicting school readiness and reinforce the need for dedicated programs for parental support before and during formal preschool education. About 8 percent of grade 4 students in Bulgaria had not engaged in any early literacy activities[34] with their parents compared to only 1 percent in the comparator countries.[35] Similarly, 87 percent of grade 4 students in Bulgaria had attended preprimary education for at least two years compared to more than 90 percent in the comparator countries. After 2016, MOES has initiated special programs addressing parental involvement, especially at the preschool level. As shown below, this positive trend in program development responsive to current challenges needs to be strengthened and paired with specific support programs addressing learning at the institutional level.

Figure 2.13. Percentage of students engaged in early literacy activities with parents

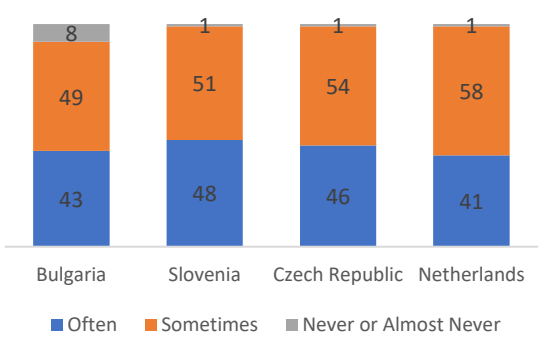
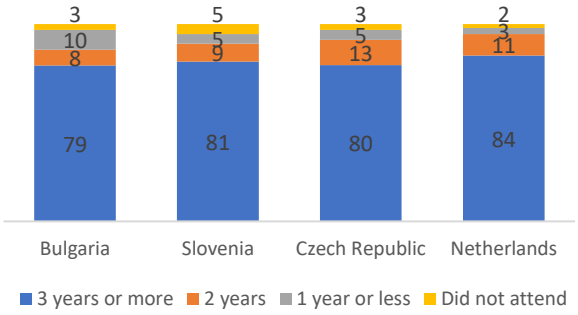


Figure 2.14. Percentage of students attending pre-primary education



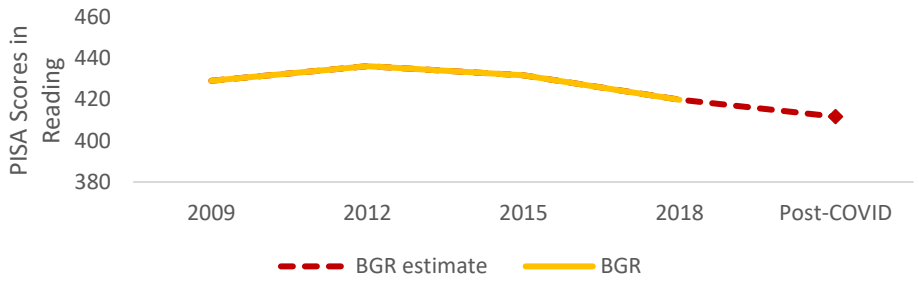
The COVID-19 pandemic generates learning losses and pushes more students into functional illiteracy. [36] **It is expected that the percentage of students performing below functional literacy may increase further.** Before the outbreak of the global COVID-19 pandemic, the education system in Bulgaria struggled to provide high-quality education to all students. COVID-19 has forced Bulgaria to close schools and move to emergency remote teaching using online platforms, TV-based broadcasts, and forms of indirect learning that address the most vulnerable. Due to the emergency nature of remote teaching initiatives, effectiveness is likely to be lower compared to traditional instruction. Assuming that a student gains 40 PISA points of learning in a year, in the case of schools being closed for around four months on average and remote teaching in the country being half as effective as face-to-face teaching, learning in Bulgaria could drop by the equivalent of 8 PISA points, thus further aggravating the downward trend in learning outcomes in the country. Additionally, while many students perform at or above the threshold for functional literacy and assuming that some of them will lose more than others, the learning losses imply that the percentage of students performing below functional literacy may increase by up to 7 percentage points (from 47 percent to 54 percent).

[34] PIRLS includes an early literacy activities scale in each assessment with results consistently showing a strong relationship with achievement. The scale has been developed on the basis of the question whether parents engaged in a list of nine early literacy activities with their children before they entered primary/elementary school.

[35] Estonia did not participate in PIRLS 2016.

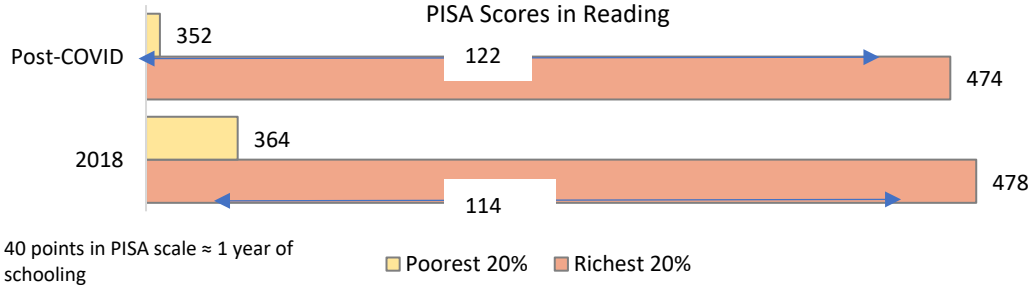
[36] The World Bank has estimated the effects of COVID-19 related school closures on learning outcomes for 157 countries. Simulations use data on learning outcomes and years of schooling to estimate the potential effects of school closures in general and across socio-economic groups. For more information on World Bank's work on COVID-19 visit https://www.worldbank.org/en/data/interactive/2020/03/24/world-bank-education-and-covid-19.

Figure 2.15. Estimated impact on PISA scores due to COVID-19



The differential access and effectiveness of remote teaching is widening already sizeable learning gaps across student populations. While remote teaching is likely to be less effective for all students, it is even less effective for students from lower socioeconomic quintiles who might face poor connectivity, limited access to electronic devices, and lower family support. Also, regardless of the income level, families with multiple children face the added challenge of balancing parental and children needs for connectivity and devices. Students with special needs may similarly face unique challenges accessing remote learning content. Using indicators from PISA 2018 data and assumptions on differentiated learning effectiveness (25 percent effective for the poorest, 50 percent for the average, and 75 percent for the most well-to-do students), the reading achievement gap is expected to increase by 7 percent (from 114 to 122 PISA points) after only a short term of face-to-face schooling interruption. The increased achievement gap and the income shock of the current pandemic can cause an increase in the rate of school dropout in the medium term, particularly for disadvantaged students. Students who lag behind with respect to their studies will be demotivated and at a higher risk of dropping out of school. The loss in household income due to COVID-19 will also test the ability of households to keep students in school, increasing the number of out-of-school youth and hindering the transition to post-secondary education.

Figure 2.16. Estimated impact of COVID-19 on the socioeconomic achievement gap



Learning policy: Goals and developments

Bulgaria's PSSEA of 2016 clearly articulates the national vision for learning. It identifies several important *principles of learning* including orientation to the individual interests and motivation of students, equal access and inclusion, innovation in pedagogical practices, transparency in management, and autonomy in the pursuit of educational policies, self-governance, and decentralization. It also specifies *core objectives for learning*, including the intellectual, emotional, social, spiritual, moral, and physical development of children and students in accordance with their age, needs, abilities, and interests; acquisition of competences needed for successful personal and professional development; the shaping of attitudes and building motivation for lifelong learning; and knowledge of national, European, and global cultural values and traditions, among others. The PSSEA introduced key competences

as a specific education goal to reinforce the importance of fostering students' ability to use competences mastered in formal education. The key competences complement and direct the curriculum structure defined[37] at each education level and are still very much oriented around subject-specific knowledge and skills (also called competences) for both preschool and school education.[38] While the curriculum (school educational standard) defines the competences expected as an outcome of the learning process in each subject at each grade, the preschool educational standard follows the traditional knowledge-based subject-focused approach and indirectly addresses the goals for competence-oriented educations set out by the PSSEA. Key competences are at the core of achieving the objective set in the PSSEA for the state to pursue policies to enhance the quality of education and to prevent early dropping out of school.

The education system slowly positions competence-based learning at the center of the education process and policy efforts. Over the past five years, national efforts have demonstrated a slow transition from baseline strategic planning and setting up the necessary administrative regulation framework to introducing competence-based teaching and learning approaches in the classroom. To define competence-oriented education, in the beginning of the 2014–2020 planning period, Bulgaria adopted the definition of key competences for lifelong learning in the European Reference Framework specified as a combination of knowledge, skills, and attitudes (KSAs).[39] The term key competences was introduced officially in strategic documents, most notably the NSLL. The PSSEA introduced in 2016 the key competences as an expected learning outcome, but it was not until 2019 that MOES started to actively implement actions related to competence-based learning by addressing directly schools and pedagogical specialists.

Recommendation: Bulgaria needs to introduce a policy approach focused on learning that is developed as a coherent program of interrelated measures addressing learning goals and serves as an alternative to the currently rather fragmented and limited set of actions. As of 2020, actions addressing learning have been mainly focused on awareness raising in the education system, distribution of teaching aids and methodological guidelines, and opportunities for CPD. These activities have not been introduced as a coherent program and do not provide a standardized institutional setup for support. The European Reference Framework describes the key competences for lifelong learning as a combination of KSAs and provides a definition linked to specific acquired "essential knowledge, skills and attitudes related to each competence." In Bulgarian legislation "knowledge, skills and attitudes" address multiple "competences" introduced by the PSSEA and the curricula (the MOES ordinances on educational standards), but none of the policy and regulatory documents define the scope of each of the specific key competences. In 2019, MOES launched two main processes addressing competence-based learning: mobilizing the system for institutional support and responding to teachers' needs for guidance and support.

As a first step, MOES developed and distributed a set of guiding documents—methodological aids for teachers, intended to explain the concept of key competences and raise awareness among teachers and school teams. This step was aimed at supporting and fostering teaching (classroom implementation) and addressing the existing conceptual challenges.

- Overarching concepts: The key competences have been directly integrated in school curricula to complement existing subject knowledge outcomes (also defined as competences) without proper guidelines on the scope and expected competence-related outcomes as well as their assessment. In addition, the reformed programs of study reinforce the concept that only a few, not all, key competences could be

[37] Through MOES ordinances on educational standards.
[38] Educational standards in Bulgaria introduce both a set of key competences and competences as education goals. The latter are associated mainly with subject level knowledge and skills.
[39] Recommendation of the European Parliament and of the Council of December 18, 2006, on key competences for lifelong learning, prepared by the European Parliament and the Council of the European Union (2006), p. 4.

acquired within a certain grade and school subject which contradicts the approach promoted under the EU guidance[40] and was not accompanied by instructions for dedicated support at the classroom level. The key competences maps distributed by MOES intended to bridge the gap between subject-related and key competences to address the conceptual challenges.

- Approach: Majority of teachers in Bulgaria are experienced in teaching that addresses subject-specific knowledge and the national student evaluations are also still subject oriented (National External Evaluations). In this context, the new 'layer' in the curriculum representing competence-focused education goals was not introduced by the system as an essential process that should affect classroom reality and student results. The methodological guidance materials distributed by MOES (four booklets on key competences and a national website for sharing good practices among teachers) provide few if any practical examples and understanding on *how to* support students in developing key competences as well as how to assess student progress.

Table 2.2. Learning goals communicated as *competences* in key regulatory documents in the field of education in Bulgaria

	Term:	Definition:	Example:	Regulation document:
teacher	Academic competence, Pedagogical competence, Communication competence, Administrative competence	The knowledge, skills and attitudes expected for education specialists setting the minimum standards for the profession (not referring to the European Reference Framework)	*"Has theoretical knowledge of the subject she/he teaches, and in the fields of pedagogy, psychology, methodology and special subjects, including related to the latest developments in the field."*	Ordinance No. 15 of 22.07.2019 on the status and professional development of teachers, principals and other pedagogical specialists
student	Competences (subject related) in preschool and school curricula	The knowledge, skills and attitudes of each student as expected results of schooling at the end of each grade for each subject (not referring to the European reference framework)	Electricity (Program of study, grade 7, Physics): *"Defines electrical current and the basic quantities that characterize it."*	School education - Ordinance No. 5 on general education Preschool education – Ordinance No. 5 on preschool education Programs of study
school student	Key competences in school curriculum	List of key competences as presented in PSSEA No definition of the scope of each competence, only reference to the European Reference Framework	Ordinance No. 5 on general education lists key competences linking them to certain subject competence. These connections are presented at educational level, not at grade level In the Programs of study: *"combination of knowledge, skills and attitudes"* is used when defining the acquisition of subject specific competences as an *"expected result of the educational process"*	School education – Ordinance No.5 on general education Programs of Study

The cumulative effect of this sequence of activities is that practitioners need and probably lack specific practical guidance and support on how to implement the 'new approaches' in teaching and how to change teaching to foster key competences while covering the compulsory subject-level competences set in the curricula. There is a need to support the workforce understanding of the process in general. Both CPD and ITE, the key instruments MOES invested in to institute changes in teacher policies and learning outcomes in recent years, are still not aligned in a sound program informing efforts, results, and the impact of the introduction of the competence-based approach. MOES implements separate activities and programs expected to provide a cumulative effect, but overall there is no systematic package for support, practice-oriented feedback, monitoring, and assessment. The following sections of the report provide specific focus on the role and development of CPD and ITE. In addition, the existence of efficient CPD programs are one of the key differences between Bulgaria and the systemic comparator countries

[40] Council of the European Union Recommendation on key competences for lifelong learning, 2018.

identified through the case studies. Teacher policies in comparator countries provided for developing sound programs binding ITE and CPD with learning outcomes and ongoing monitoring of their impact on student and school results.

In practice, subject-oriented curriculum and learning goals have been one of the key focuses of education reforms and absorb the current learning efforts of the system and the workforce. In accordance with the Strategy for Lifelong Learning, new programs of study have been planned and their introduction started gradually after 2015. In line with the PSSEA's provision that key competences are acquired "through studying the school subjects,"[41] the regulations establishing learning standards for school education (learning outcomes) and the programs of study for grades 1 to 12 provide links to key competences in addition to subject competences by integrating the acquisition of key competence in the hierarchically organized learning outcomes structure and placing them at the top above the expected subject-related learning goals. This approach further developed in the educational standard for school education indicates that by achieving each of the outlined learning goals, students move toward mastering one or more key competences. The assessment of learning outcomes has not been adapted to address key competence goals and follows the traditional formative and summative assessments.

Table 2.3. New preschool and school curricula and programs of study by year of introduction

Curricula/program of study	Year
School curricula	2015
Preschool curricula	2016
Programs of study, grades 1 and 5	2016/2017 school year
Programs of study, grades 2, 6, and 8	2017/2018 school year
Programs of study, grades 3, 7, and 9	2018/2019 school year
Programs of study, grades 4 and 10	2019/2020 school year
Programs of study, grade 11	2020/2021 school year
Programs of study, grade 12	2021/2022 school year

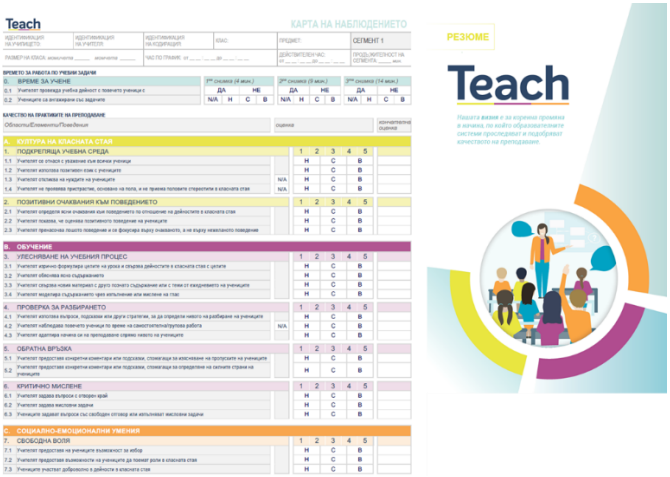
Based on available information and with no tracking of the effectiveness and impact of the introduced measures outlined above, it will be hard to assess if the course of action over the past years is going to produce positive dynamics in learning outcomes and inform teacher policies. The new programs of study for the grade 9 students (PISA target group) were launched during the school year following the 2018 PISA test. While it is too early to attribute any impact of the new programs on PISA results which in general remain flat for the last decade, the education system still lacks instruments to monitor and support the process. At the outset, in addition to traditional training focused on the newly introduced subject-level curriculum, teacher ITE and CPD should focus on supporting teaching staff to develop and adopt in regular classwork innovative competence-oriented teaching and learning approaches and environments to improve learning outcomes and learner engagement.

Recommendation: Having in mind the limited existing knowledge on teachers' understanding of competence-based learning at education levels using newly introduced curricula and on the impact of these curricula on classroom processes, targeted monitoring and tools for classroom-level support and feedback are needed. While MOES invested efforts in teacher CPD focused around the new curricula, no follow-up support and tracking of classroom implementation are identified that can provide understanding of progress and persisting challenges that can inform supplementary CPD training. Across the education system, classroom observation practices targeted at collecting and analyzing both qualitative and quantitative data regarding the implementation of the new curricula are the

[41] PSSEA Art. 77, the ordinance provides that general education preparation "covers" nine core competence groups and adds that they are "realized" through studying the school subjects.

exception rather than the rule. The system seems to lack the capacity to understand the potential of similar instruments to not only observe but also support the development of modern and innovative teaching practice. Adapting and piloting the use of existing instruments for classroom observation could inform MOES and Regional Departments of Education (RDEs) efforts to identify and address teachers' training needs at both ITE and CPD levels. MOES has at its disposal a standardized classroom observation platform (Teach), providing an integrated digital solution for data collection and analysis. The full package of the instrument was translated in Bulgarian and provided to MOES in 2019. Teach could be used as a quick start background platform for developing and testing classroom observation aimed at informing ITE (inception of new teachers in the system) and CPD policy efforts, especially after introducing new approaches, content, and learning goals.

Figure 2.17. Teach: A classroom observation instrument to inform teaching standards and teacher needs



Note: *Translated in Bulgarian and delivered to MOES in 2019*.

Recommendation: To improve the efficiency of focused investments in teaching and learning, a framework addressing key competences defined in the curricula can be developed to refocus teaching efforts to higher-level curriculum goals related to competence-based teaching and learning. Without clear goals related to competence-based learning, current policy efforts lack focus and potential to manage the introduced changes while teachers are not efficiently supported to address existing challenges and needs for changing teaching styles, classroom practices, and tracking progress. The framework could be complementing existing educational standards for preschool and school education[42] by defining clearly the expected learning outcomes for each education level in terms of acquired key competences while at the same time addressing assessment tools for tracking student progress toward learning outcomes above the subject-specific level. The framework could set clear and measurable expectations regarding key competences acquisition by children, students, and teachers. Another goal of the document would be to build consensus across the education system on the founding principle that every school subject has a role in the development of each key competence and/or different combinations of them depending on the context and the

[42] Outlined in Ordinance No. 5 of November 30, 2015, on General Education and Ordinance No. 5 of June 3, 2016, on Pre-school Education.

learning situation in line with the European key competences framework approach.[43] The current approach of compartmentalizing the acquisition of certain competences in different study programs hinders the development of common understanding of the expectations toward teachers and the expected learning outcomes at student, system, and school/preschool levels.

MOES needs to capitalize on the investments in education workforce capacity development in the field of teaching and learning through building an adaptive framework oriented around the teacher workforce life cycle.[44] MOES has stressed the importance of developing the competences of teachers addressed through policy measures focusing on teacher CPD linked with education-level needs, developing guiding documents drafted as methodological aids for teachers on the competence-based approach to learning and teaching, mapping curriculum, and key competences. Currently, the mix of uncoordinated financial instruments (funding transferred to educational institutions, national programs, operation programs, Erasmus+ Programme) used to address CPD needs poses a key challenge to planning and monitoring specific thematic priorities across instruments and assessing their cumulative outcomes and impact. MOES does not monitor the variety of investment programs that address teaching and learning in an integrated manner. Rather, the programs and their cumulative effect are being observed and managed as separate processes, indicating a pressing need for improving and targeting coordination planning. In general, the assessment of distribution and coverage of teacher competence centered CPD is not done systematically by MOES and the variety of policy tools and data collection approaches makes this effort difficult. There is no evidence that MOES provides dedicated support or systemic observation of the outcomes of such investments.

Recommendation: The current approach to policy program implementation needs to be based on specific methods for monitoring and assessment of qualification outcomes (both ITE and CPD) by specific workforce groups and by education levels. Some specific aspects that MOES could address alongside teaching and learning capacity-building priorities relate to specific targeted CPD for school leaders; seeking, collecting, and reflecting teachers' and principals' perspectives in planning and implementing teacher policies; and providing support to educational institutions for improving school outcomes and development:

(a) The PSSEA provides for equal opportunities and access to CPD for pedagogical specialists. However, it is difficult to distinguish between the provision of targeted training and support to school leadership and teachers. The opportunities available to principals may be insufficient both in scope and provision. It is not possible to assess how the system differentiates between what is expected from teachers and principals in their roles. The analysis provides examples of consistent and focused packages addressed at school leadership.

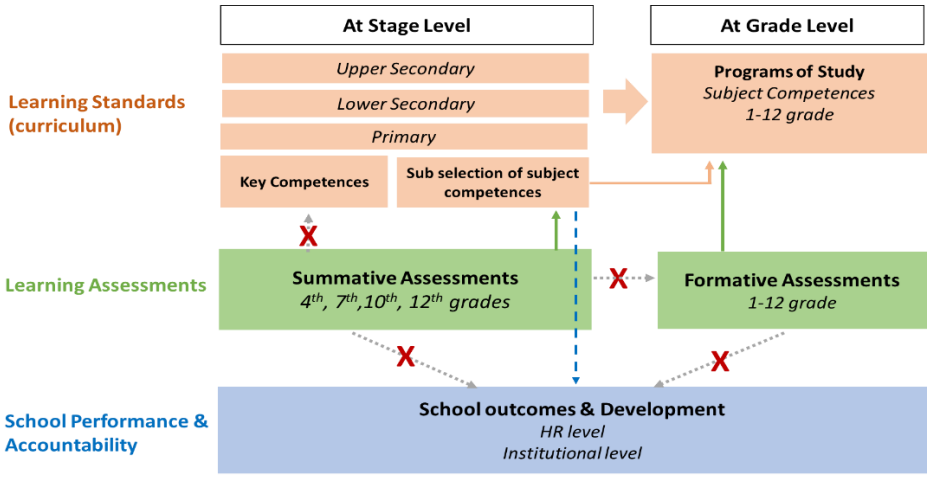
(b) There is no established channel and practice for MOES to conduct workforce-level surveys. Direct feedback collection from teachers is limited and, when available, focused on specific actions or temporary initiatives, failing to establish a systematic approach for collecting and two-way communication of information on core policy processes, challenges, and effects. The reviewed teacher and principals' attitudes shedding light on the key challenges with respect to teacher policies as perceived by them build on data analysis from large-scale international assessments.

[43] The key competences are all considered equally important. Competences can be applied in many different contexts and in a variety of combinations. They overlap and interlock; aspects essential to one domain will support competence in another. Skills such as critical thinking, problem solving, teamwork, communication and negotiation skills, analytical skills, creativity, and intercultural skills are embedded throughout the key competences. Key competences for lifelong learning: European Reference Framework, European Commission, 2006, p.7.

[44] Including new curricula.

(c) While the RDEs have responsibilities related to supporting and guiding the learning process, the provision of standardized, planned, and structured support for school/preschool development remains unclear. RDEs have developed routine activities involving individual examples of comprehensive practices and local approaches to observe and support teaching and learning and their effects. MOES functions addressing learning outcomes differ from the role and responsibilities of the newly established National Inspectorate of Education (NIE) (2018) whose activities are aimed at conducting an independent assessment. Examples for school development and support programs have been outlined in Figure 2.18.

Figure 2.18. School education: Learning goals, assessments, and school development



Monitoring of learning outcomes in school education is mainly based on national summative assessments that have been designed with the purpose of informing the subject-level standards set by the curriculum and need to be further developed to address learning outcomes. In school education, the national summative assessments (after grades 4 and 7, after grade 10 planned for 2019/2020 school year and postponed due to COVID-19, and after grade 12—the matriculation exams) have been designed to inform the outcomes of the subject-oriented curricula. While the regulatory framework is built around the understanding that subject competences are required for developing key competences, it is unsound to use the assessments' outcomes to measure policy goals related to competence-based learning given the nature and focus of the tests. The introduction of key competences did not entail modification of learning outcomes assessment approach or instruments with the assessment tests covering only a subset of curricula subjects and measuring only subject-related learning outcomes outlined in the educational standard. While the assessments[45] should also "monitor the education process in terms of policy implementation,"[46] they are not designed to inform progress on key competences acquisition.

Table 2.4. Summative assessments

Grade	Scope of subject competences	Coverage	Future plans[a]
4	• Bulgarian language and literature • Mathematics • Man and society	The assessment is not mandatory. High participation registered. Progress to next grade (5) is not limited in case of poor outcomes or no	Starting in 2022/2023 MOES is planning to introduce integrated testing:

[45] The test results can be used for upper secondary school admission (high-stake assessment), for university admission, and according to the legislation[45] for (a) diagnosing the individual progress and educational needs of students, (b) monitoring the educational process of implementing policies and measures aimed at improving the quality of education, (c) assessing the degree of achievement of the expected learning outcomes of the course defined in the respective program of study, and (d) assessing the degree of achievement of the expected learning outcomes of training, defined in the state educational standard for general education (Ordinance 5) of the relevant subject at the end of a given educational level.

[46] Ordinance No. 11 of September 1, 2016, on the Evaluation of Student Results, Art. 44.

Grade	Scope of subject competences	Coverage	Future plans[a]
	• Man and nature	participation. Absent students should provide a valid reason for not taking part in the assessment.	Bulgarian language test will combine items from the field of social sciences and mathematics testing is to combine natural sciences with the purpose of encouraging students to concentrate efforts on all subjects not only those covered in national assessments.
7	• Bulgarian language and literature • Mathematics	A high-stake assessment with the score is used for school admissions after grade 7. The assessment is not mandatory. High participation registered. Progress to next grade (8) is not limited in case of poor outcomes or no participation. Students will be enrolled to secondary schools even with a 0 score. Absent students should provide a valid reason for not taking part in the assessment.	
	• Foreign language	Elective participation	
10	• Bulgarian Language and Literature • Mathematics	The assessment is not mandatory. Progress to next grade (11) is not limited in case of poor outcomes or no participation. Absent students should provide a valid reason for not taking part in the assessment.	
	• Foreign language • IT	Elective participation	
12	• Bulgarian language and literature • Plus one elective subject based on student's choice (mathematics, English, Italian, Spanish, French, Russian, German, geography, history, biology, chemistry, physics, philosophy)	The assessment is mandatory for awarding secondary education graduation diploma. The set minimum threshold very low: 23 out of 100 points.	Plans for increasing the minimum threshold to 30 out of 100 points starting 2021/2022

Note: a. Georgieva, Silviya. 2020. "The Threshold for a Passing Grade on the State Exams Will Be Raised." Sega. https://www.segabg.com/hot/category-education/pragut-za-troyka-na-maturite-shte-se-povishi.

More efforts should be invested in formulating an approach to monitoring and measuring policy goals and outcomes in preschool education. In Bulgaria, school readiness monitoring and assessment have not been developed as a systematic policy approach to inform the needs of primary policy programs addressing student specifics and preschool processes. Up until 2020, system efforts were focused on enforcing compulsory preprimary education starting from age 4. PISA and PIRLS data for Bulgaria provide evidence that school readiness has significant influence on later school learning outcomes.[47] On the whole, there is lack of systematic analyses of school readiness with exceptions mainly focused on evidencing the effects on disadvantaged groups of children. Measuring preschool performance and outcomes is still mainly oriented around schooling in terms of enrollment of compulsory age groups, not around systematically observing school readiness.[48] The NSLL 2014–2020 reflects planned policies for introduction of a standardized school readiness diagnostic tool. Some RDEs use an assessment tool, but this is not a countrywide practice and MOES does not collect and observe data to informal policies. In addition, while there is consensus on the need for such instrument, there is no consent on how it should be developed. The state

[47] Mavrodieva, Progress in International Reading Literacy Study (PIRLS). Report for Bulgaria. 2019; Gortazar et al. 2014.

[48] Through EU funding, the MOES is successfully implementing a system-level program for screening and addressing early learning delays. This program, however, has a specific goal oriented to inclusive education and is not designed to address the overall early learning process and preschool early learning accountability needs.

educational standard[49] on preschool education sets two main goals related to lifelong learning and personal development of each child without referring to the European Key Competences Reference Framework:

(a) Overall development of the child's personality

(b) Acquisition of a set of competences—KSAs necessary for the successful transition of the child (from preschool) to school education.

The standard follows the approach of the NSLL with preschool quality addressed by policy actions focusing on early learning and child development but measuring implementation outcomes is limited to observing enrollment rates and coverage by age groups. Even though preschools have been included in the distribution of competence-based learning guidance publications in 2019, key competences seem to remain primarily a target for school education while at the preschool level the approach to early learning is more creative than a standardized goal.

Bulgaria's learning assessment packages are skewed toward later education levels (lower and upper secondary education) in contrast to the approach in learning-oriented systems in the United Kingdom and the Netherlands to identify and use early learning outcomes organized around school readiness indicators or registering of children's basic data, to inform and support school learning. Figure 2.19 shows a comparison between preschool and school education learning assessment systems in Bulgaria, the United Kingdom, and the Netherlands by indicating with dark blue the learning assessments and their positioning in relation to educational levels. The Bulgarian system is still underdeveloped and it does not accommodate knowledge and observations to inform preschool and elementary educational levels. PIRLS demonstrates that education disparities start at early educational levels in Bulgaria, but with the current approach MOES does not have a systemic instrument to inform, monitor, and address learning and potential teaching gaps in preschool and early school years that might be critical for students' learning development.

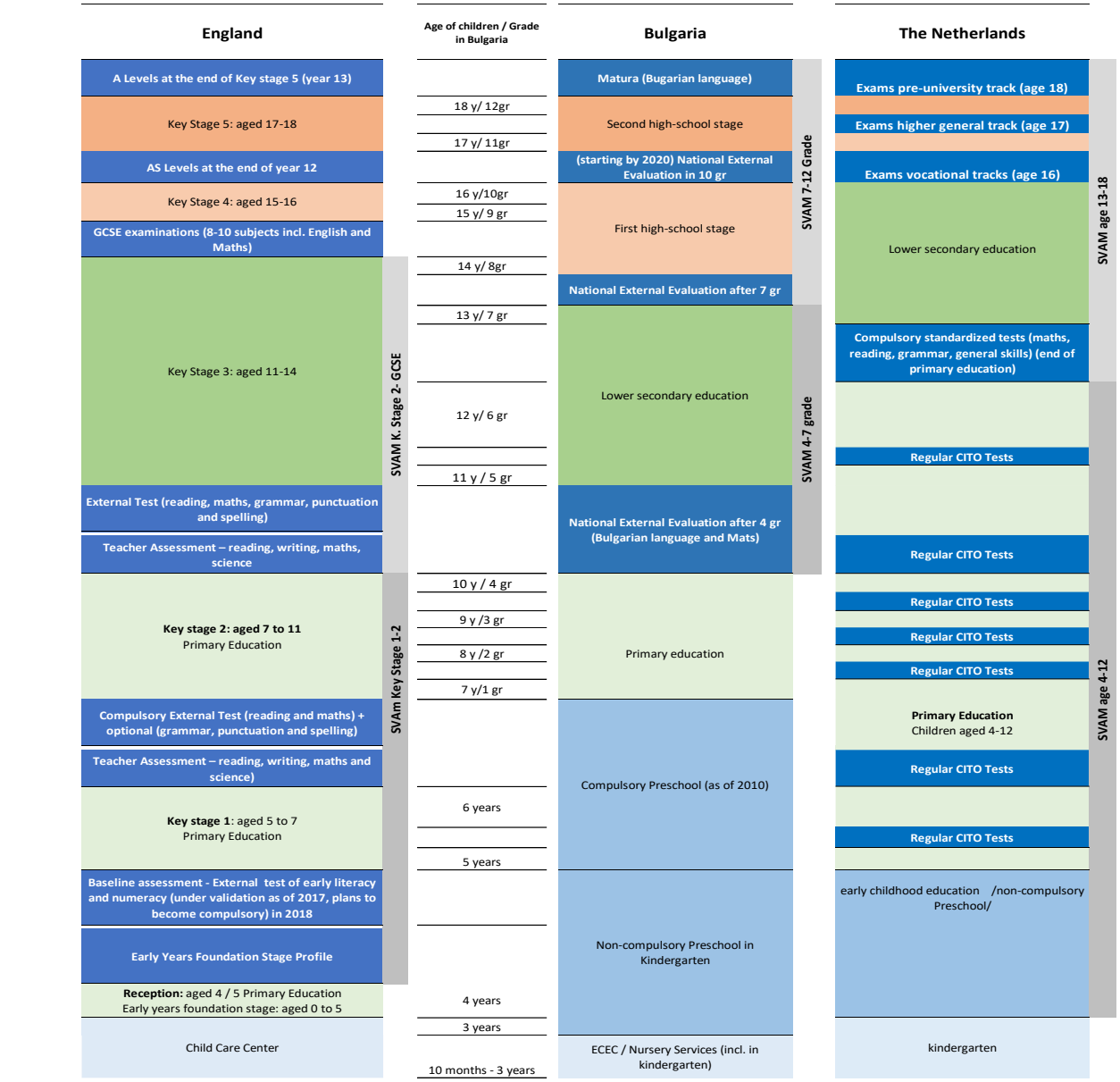
Recommendation: Improving policy coherence between learning standards, learning assessment, school performance, and accountability is needed across education levels with specific targets and approaches to teaching and teacher policies.

- In preprimary education, the immediate goals need to equip teacher teams with instruments to monitor progress; competence-focused teaching needs to be integrated.
- In school education, the state exams need to reflect and integrate the competence concepts beyond assessing subject knowledge; competence-focused teaching needs to be integrated.

In preprimary and school education, the accountability of schools and institutions needs to reflect competence goals where a mix of support oriented to learning outcomes should be developed as a priority policy approach.

[49] Ordinance No. 5 of 03.06.2016 on Pre-school Education.

Figure 2.19. Measurement of learning outcomes in England, the Netherlands, and Bulgaria



Dark Blue	Student Data Collection Tools
Grey	SVAM assessments/periods
Orange	Upper Secondary Education
Dark Green	Lower Secondary Education
Light Green	Primary Education
Blue	Preschool
Light Blue	Early Childhood Education and Care Services (nurseries)

Note: SVAM coverage for Bulgaria used as comparative example based on SVAM estimation project in 2017. CITO = Cito exam (*Cito-toets*) an independent assessment of final year Dutch primary school pupils; GCSC = General Certification of Secondary Education.

The cohort of children from the 'Springboard for School Readiness' Project is a potential group for longitudinal follow-up (until 2029/2030 school year) of causes and consequences in school readiness, education paths, and outcomes, following the assessment and monitoring of their enrollment and school readiness outcomes. The only large-scale assessment of school readiness was implemented by the World Bank under the Springboard for School Readiness Project. The project was implemented by the Trust for Social Achievement (TSA) in 2015 and 2017 and addressed vulnerable population to inform preschool barriers to access and learning outcomes (see below). In 2015 and 2017, a cohort of approximately 5,000 children from vulnerable communities were covered by experimental analysis to observe participation and recommend policy responses to fostering preschool participation for children from vulnerable families (World Bank and TSA). The 2017 study, which coincided with the MOES mechanism of tracking and reintegrating children dropping from education or non-enrolled, found strong relationship between longer stay in preprimary programs and school readiness for the most vulnerable children. This same cohort of children is now in the educational system and is ready to be analytically monitored in terms of learning paths and outcomes. MOES has recommended, on the basis of the data set with preschool observations at the child level, a string system project for tracking and analysis of education outcomes to be initiated on the basis of the national and international summative assessments to develop a solid foundation for policies addressing populations vulnerable to education.

Recommendation: A program proposal for a Longitudinal Study on Learning and Lifelong Learning outcomes. The flow of students from the 'school readiness' cohort (the Springboard for School Readiness Project) in education presented below provides a unique opportunity for tracking and analyzing the educational life-cycle developments for those that are the most at risk in education. This could model similar observation for a variety of groups to inform policy outcomes—a strong investment in understanding outcomes is needed (see Annex 3).

The second main process initiated by MOES to address the competence-based learning approach focused on the institutional setup and the capacity to support teaching and learning. It was also centered around strategizing how to address overall learning outcomes, how to make use of a unified approach, plan investments, and gain strength. For the last five years, the educational system has been undergoing constant structural changes that engaged to a great extent the focus and capacity of the administration (reorganization of institutions, student flows, introduction of new processes and relevant regulations, and so on), especially following the adoption of the PSSEA in 2016. The changes led to restructuring in terms of monitoring and control responsibilities as well as to providing resources and strengthening some of the key processes aimed at supporting the practices at the classroom level so that they can address learning. **A new function of the RDEs for providing support to educational institutions at the regional level was introduced in 2017, adding to their existing functions (see below) and thus leading to increased workload.[50] There are signs that the attractiveness of jobs with the RDE has diminished, which, together with the steady increase of teacher salaries, makes RDE specialists seek employment in teaching and/or school management.** The capacity of MOES and RDEs to provide unified and efficient support for improving teaching and learning outcomes needs to be assessed and supported. While the regulations try to put emphasis on the RDE's role to support schools and preschools, the effectiveness of this new function is not clear. Unlike teachers, RDE experts have limited access to CPD trainings and their growing workload (regular school inspections, paperwork, provision of teacher support) does not reflect time and capacity constraints for managing this array of operational tasks. If effectively planned

[50] Before the reform, RDEs had a leading role in the process of inspection in the education system. After 2017, the inspection function is performed by MOES and a newly established independent inspection body, the NIE. RDE experts point out they supported teachers in various ways even before 2017, but with the new regulation in place the term 'support' is more often used than the term 'inspections' when thinking about and planning interactions with schools.

and implemented, RDE support could bring results even in the short run as experts know the local school context and challenges.

Table 2.5. Main stakeholders and roles with respect to learning outcomes in Bulgaria

Main actors	Responsibilities
Council of Ministers (CoM) of the Republic of Bulgaria	The authority charged with the overall management, monitoring, and control of implementation of the National Development Programme Bulgaria 2020. The acquisition of key competences is part of Priority 1. Improving access to and enhancing the quality of education and training and the qualitative characteristics of workforce. Learning outcomes are considered at a macro level, with related key indicators like GDP per capita, share of unemployed, share of people living in poverty, and share of people in working poverty.
Ministry of Education and Science	The ministry develops and implements the Strategy for Lifelong Learning as well as other thematic education strategies to support the goals of the National Development Programme Bulgaria 2020. The ministry is responsible for implementation of the PSSEA and regulations framework provisions. It also monitors education outcomes (through the national external evaluations/state summative assessments, RDE reports, and representative studies), identifies challenges, plans, and implements modifications. MOES is responsible for implementing the NPDEs (see below). The 28 RDEs are directly subordinated to MOES.
Regional Departments of Education	In February 2017, the previously existing 28 Regional Inspectorates of Education were transformed to Regional Departments of Education,[a] introducing a major change refocusing functions from inspecting to supporting educational institutions at the regional level. Along with other functions related to monitoring school budgets (shared responsibility with municipal authorities), planning, and conducting school inspections, RDEs have been tasked with providing methodological support for teachers and principals "through consultations, organizing trainings and sharing good practices or other forms of peer learning such as lesson observations, organizing and realizing inclusive education activities jointly with pedagogical specialists."[b] Each RDE develops an annual plan outlining planned trainings and other activities providing additional support to teachers and school leadership at regional level.
National Inspectorate of Education	The PSSEA introduced the creation of new administrative body—the NIE. The NIE has autonomous management appointed by the Bulgarian Prime Minister and budget funded through the state budget.[c] The major objective of the NIE is to conduct a thorough, in-depth analysis of the functions and quality of schools and kindergartens presenting at the end of each school year all findings to the Minister of Education and Science and the CoM.[d]
School and preschool directors (principals)	Preschool and school principals are responsible for applying strategic and programmatic documents and monitoring results. They have a key role in setting the school vision, the school long-term strategy, and the annual plan for professional qualification (PQ plan) of teachers. They 'organize quality education process in line with the specifics of the age and socio-cultural characteristics of the children and students' and are familiar with and implement strategic and programmatic documents for setting priorities related to the development of the educational institution.[e]
School and preschool teachers	Teachers are ultimately responsible for the implementation of learning goals as defined in the regulations and curricula.

Note: a. Following the implementation of 'Regulations on the structure and functions of the Regional Departments of Education' of February 7, 2017.
51B. Regulation on the structure and functions of the Regional Departments of Education, Art. 9 (2).
c. Regulations on the structure and functions of the National Inspectorate of Education, Art. 2 and Art. 6 (2).
d. Regulations on the structure and functions of the National Inspectorate of Education, Art. 19, Art. 20.

[51] National Strategy for Promoting and Improving Literacy (2014–2020).

e. Ordinance No. 15 of July 22, 2019 on the Status and Professional Development of Teachers, principals and other pedagogical specialists, Annex 3.

MOES has not prioritized and planed the development of a clear concept and implementation plan for school development support that apart from establishing an administrative framework for compliance is also focused on teaching and learning outcomes (school accountability). MOES could inform this policy gap by combining elements from (a) existing local practices established by the RDEs; (b) systemic projects co-funded by the EU that have introduced grouping of schools and specific measures based on learning outcomes; and (c) successful examples from other EU countries that involve not only system bodies such as MOES and the NIE but also successful managers of schools/preschools in the system to guide and influence schools and preschools with similar characteristics of student population and outcomes. MOES could benefit and continue with planning on the basis of discussions accompanying the SVAM work for Bulgaria that addresses school development and the associated evidence to inform school development and outcomes.[52] The recommendations are relevant in their full scope given the lack of significant developments in this field.

Recommendation: The following list could inform the process and the preparatory steps on the basis of the current system approach. It reflects the existing needs and the system that could be used as a platform for developing more diverse and efficient programs:

- The existing role of the RDE should be specified and planned to ensure 'space and time' to better support and work closely with struggling (and not only) pedagogical specialists/schools. The existing 'Regulations on the Structure and Functions of the Regional Departments of Education' could be used as a framework for the methodological support, the overall approach, or the elements and standards (quality) of the provided support. A balance between the specific tasks (administrative work, control, school inspection, and mentoring/support) should be found, for example, the experts' job description. Supporting the process of acquiring key competences by students was highlighted as a focus in the work of both MOES and RDEs, but when it comes to the RDE's work, this has not been formalized, planned, and implemented in the long run through the RDE's annual plans and other appropriate documents.
- The RDEs should support teachers and school management, but the RDE experts themselves need support on how to mentor and couch the pedagogical staff. In line with the amended functions of RDEs introduced by PSSEA in 2016, a dedicated support for the RDE experts is needed, including training opportunities on how to support and mentor schools/teachers. Specific knowledge on the profile and skills/talents of the RDE workforce (background profile, thematic expertise, and experience in the system) should be among the baseline efforts to plan and build their capacity. For supporting and mentoring schools/teachers, a set of new skills are required that should be provided through CPD as well as other supporting tools such as teacher-expert meeting scripts and needs assessment questionnaires.
- The concept of 'good practice' for advancing learning should be better specified. At the moment, there is no clear approach to good practices neither are there clear goals and expectations on the basis of this type of interactions. RDE experts could be responsible for fostering and promoting schools' good practices, but there are no clear criteria as to what a good/best practice is and how it should be described to be applied by other pedagogical specialists.

[52] World Bank, Analytical report assessing the relationship between School Value Added Measures under activity 1.2 and the key social and economic characteristics at student, school and local level. March, 2018

Figure 2.20. Ireland: Delivering equality of opportunity in school programs

Note: Translated in Bulgarian and delivered to MOES in 2018, under the SVAM project.

Being a high-priority policy process, competence-based learning needs a sound implementation concept as well as provision of teaching support, monitoring, and assessment, focused on learning and learning outcomes:

(a) There seems to be a lack of balance between preschool- and school-level efforts on both learning outcomes monitoring and assessment and learning policy goals and standards where the positioning of key competences is not clearly structured. It seems that the correlation between key competences and educational achievements needs further conceptualization, planning, and implementation. The process of key competences development is focused primarily on the school education level. The impact and link to the preschool level have not been developed or communicated at the school level.

(b) The policy intention to measure learning outcomes, laid out in the strategic documents in 2014–2020, has been limited only to two key indicators proposed for measuring the implementation of learning-centered education – students' PISA outcomes[53] and students' outcomes[54] with respect to the standards of the Bulgarian language curriculum.

The NSLL explicitly links key competences to lifelong learning: "All impact areas support attainment and continuous development of nine key lifelong learning competences within a common process" but measuring of key competences has been explicitly listed only in one impact area – "3.4.4. Improving the quality of school education and training toward acquiring key competences, improving learners' achievements and personality development." More specifically, the indicator has to do with "the share of students, whose achievements are below the critical second level of the PISA scale in the area of reading, mathematics, and natural sciences."

On the other hand, the documents set a specific policy measure addressing learning in school education—3.4.3. Enhancing the educational achievements and reducing early school leaving (ESL)—but with respect to learning, the planned indicators address mainly schooling outcomes and literacy levels:

- Number of early leavers from education and training by year
- Share of leavers from primary education (%)

[53] National Strategy for Promoting and Improving Literacy (2014–2020): % of attainability of curricula requirements for educational content in Bulgarian language and literature for each stage measured through state exams.

[54] (a) workforce payments (formula-based intergovernmental transfers to municipalities and delegated budgets to schools and some of the preschools) and (b) most of the expenditures related to teacher professional development.

- Educational level of the population ages 25–64
- Population literacy (basic literacy) – share of literates among those ages above 15 years (%)

(c) On the implementation side, there is a lack of assessment efforts to inform learning outcomes achieved on the basis of the chosen competence-based approach and of the related MOES investments. The main focus of MOES is on informing policies based on the national summative assessments that inform predominantly subject-level competences and are not designed toward the higher-level education goals represented by key competences (to inform the competence-based approach). This package is insufficient to inform and provide assessment of the overall process, challenges, and causes at the different education levels (challenges related to the implementation of key competences in the curricula and reflecting the education levels, to school management and teachers, and to CPD and initial teachers' preparation). The package is also inadequate to identify and address the problematic areas for students in the process of changing the focus of learning from knowledge to skills and key competences. The lack of targeted indicators hinders the measuring of all efforts with respect to competence-based learning and prevents policy makers from identifying the strengths and weaknesses of the chosen implementation steps. MOES could consider introducing, in addition of curriculum targets, a separate basic package of indicators targeting primarily learning and informing the programs that address its key policy tools:

- MOES policy operations at the national level: NPDEs, CPD investments.
- School and preschool learning accountability monitoring: a package of basic indicators has been proposed with a specific focus on learning under the 2018 SVAM analytical work.
- Key external investment sources: EU funding and international developmental collaborations.

Overview of the policy mix in 2016–2020 addressing teacher policies and learning

The contribution of specific teacher policy actions to learning policy goals represents a mix of novelties, mainly process focused, that have been introduced in the educational system and, most recently, programs that focus mainly on the learning process. MOES programming needs to develop in the direction of providing funding that is (a) more focused on learning, (b) accountable for the outcomes, and (c) built on the strong efforts for increasing the level of schooling and inclusion, especially among the most vulnerable to education. The policy initiatives need to be assessed with a view to making the cumulative processes that address all schools and preschools more stable, thus addressing the learning goals and ensuring contribution to policy targets for learning in addition to the ones for enrollment. Also, a specific monitoring and evaluation approach is needed that should substitute formal reporting and give priority to the learning targets. Table 2.6 presents the key policy steps in the mix of developments that address teacher policies after the adoption of the PSSEA.

Table 2.6. Policies addressing workforce and learning introduced since 2016 (in chronological order)

CPD | Human Resource management | Learning

Topic/year	Thematic details	Actions	Source/regulation	Implementation assessment
CPD 2016	Standardization of CPD through professional qualification credits (PQCs)	Creating of a register of certified CPD programs and providers (universities offering CPD training courses not required to register)	Introduced by PSSEA Art. 229–245 Ordinance No. 15 Art 89–95	Quantitative indicators: number of participants, number of PQCs obtained
CPD 2016	Expansion of providers of PQDs	Providing for all universities offering ITE to provide PQD training	Introduced by PSSEA Art. 225 (3)	No data available
Human resource management (HRM) 2016	Career development: opportunities for professional growth based on professional qualification versus years of experience	Changing the minimum requirements for professional growth in legislation and regulations	Introduced by PSSEA Art. 227 Ordinance No. 15 Art. 69–75	Indicators: share of senior and head teachers
HRM 2016–2020	Career development: Teachers assessment	Introducing an assessment procedure (attestation) to be implemented every four years (first attestation to be completed in 2020–2021)	Introduced by PSSEA Art. 228 Ordinance No. 15 Art. 76–88	Reports of the assessment (attestation) commissions
Learning/accountability 2017–2020	School/preschool accountability – external evaluation of educational institutions by the NIE	Establishing the NIE and introducing a mechanism for external evaluation of the work of all schools and kindergartens (first official inspections 2020–2021)	Introduced by PSSEA Art. 271–279 Regulations on the structure and functions of the National Inspectorate of Education	School/kindergarten inspection reports NIE regular reports and analyses
Learning/accountability 2017	School/preschool support for development	RDEs focus on methodological support for teachers and schools rather than on inspection and control	Introduced in 2017 (February 7, 2017) in Regulations on the structure functions of the Regional Departments of Education	RDEs reports submitted to the Minister of Education and Science
CPD 2018–2019	Ensuring funding for methodological support of pedagogical specialists and internal qualification activities	Guarantee that half of designated CPD funds are invested in in-house qualification activities	Collective Labor Agreement of June 11, 2018, and Annex to the Agreement of November 12, 2019	(Pre-)school financial reports Annual professional qualification reports submitted by pre-/schools to RDEs (quantitative indicators of participation)
Learning/VET	Teaching oriented to skills development and labor market	NPDEs: 'IT Business Teaches' and 'Ready for an IT Career'	NPDEs (2018–2020)	Program implementation reports by MOES (quantitative indicators)

Topic/year	Thematic details	Actions	Source/regulation	Implementation assessment
	needs/strengthening partnership between education system and business			School reporting on participation numbers
CPD 2018	Ensuring complementary EU funding for teacher CPD	Project 'Qualification for Professional Development of Pedagogical Specialists' BG05M2OP001-2.010-0001	Operational Program Science and Education for Smart Growth (OPSESG) (2018–2020) Project BG05M2OP 001-2.010-0001	Project key indicators monitoring (quantitative) and short feedback survey among teachers participating in trainings
Learning/competence-based approach 2019	Promotion of competence-based approach to teaching and learning platform for peer practices exchange	Four booklets on key competences created and distributed in 2019 by MOES e-platform for sharing good practices (https://e-learn.mon.bg)	Not regulated through available documents Mainstreamed through RDEs	No implementation assessment planned Tracking of total number of shared materials via the platform and total number of visitors and downloads
HRM 2019	Limiting universities autonomy: potential impact of ITE pedagogy programs subsidized by MOES	Minister of Education and Science executes broader control functions with respect to management of higher education	2019 changes introduced to the Higher Education Act	No data available
Learning/competence focused 2020	Focusing on innovative teaching approaches	Holistic approach for key competences acquisition through improving learning and providing appropriate teacher training	NPDEs: 2020 Providing School STEM Environment	Program implementation report by MOES (expected) Participating schools reports

The national budget for education (formula-based transfers for education) is the default funding source for the key teacher policy strands[55] in preschool and school education, but another instrument, the NPDEs, is the key instrument for funding specific policy steps. Recently (2014–2020), expenditures adding up to basic expenses for wages and continuous professional development have also been funded through (a) the NPDEs, (b) the EU funds and international programs, (c) own municipal revenues,[56] and (d) school own revenues[57] and Erasmus + projects. Below is a specific overview of the NPDE and the OPSESG is provided in view of the significant impact of these instruments on policy investments. The remaining instruments are addressed in the next sections with respect to their thematic relevance. The educational system in Bulgaria is predominantly publicly funded, with some 90 percent of the spending on preschool and school education in 2016 funded by the state budget.[58] Private sources (including households, enterprises, nonprofit organizations, and religious institutions) play a small role as a source of funding

[55] Municipalities (according to their policy priorities) may transfer additional funds to schools from their own revenues without the obligation to use an allocation formula.
[56] Schools are free to use their own revenues to cover different additional teacher-related expenses, including additional remuneration.
[57] Source: Education and training statistics from UNESCO-OECD Eurostat (UOE) data collection, latest available data for 2016, Eurostat.

for the educational system, accounting for 7.3 percent of the overall spending on preschool and school education, with the most substantial portion allocated to upper secondary education (15.9 percent).

Table 2.7. Sources of funding in preschool and school education in 2016 (%)

	Public	Private	International organizations[a]
Early childhood education (ISCED 0)	93.0	7.0	0.0
Primary education (ISCED 1)	93.5	2.7	3.8
Lower secondary education (ISCED 2)	93.6	3.3	3.1
Upper secondary education (ISCED 3)	82.3	15.9	1.8

Source: Team calculations based on Eurostat (data code: educ_uoe_fine01).
Note: EU funding is included. a.Public multilateral organizations for development aid to education like multilateral development banks (the World Bank and regional development banks), the United Nations agencies and other intergovernmental organizations, bilateral development cooperation government agencies, and international nongovernmental organizations (NGOs) established in Bulgaria.

The NPDEs have been used extensively as a flexible instrument for resourcing policy interventions that are not included in the baseline funding mechanism (unified cost standards and specific earmarked transfers), yet the outcome-focused planning and assessment of the NPDEs need to be strengthened. The NPDEs target preschool and school education[59] and are a key national budget instrument focused on developing policy instruments that address reform steps, critical problems, and piloting of practices. Specific programs provide financing for specific teacher-related policies, covering expenses for teacher qualification, additional teacher remuneration for involvement in specific activities, motivating and restructuring the teacher workforce in kindergartens and schools, and so on. Most of the performance indicators defined under the programs are basic resource- and process-related indicators (for example, number of involved teachers, number of hours, and number of trainings). Although some of the programs envisage monitoring and assessment procedures, the evidence and lessons learned from these investments have not been clearly defined. In addition, few programs are subject to evaluation and there is a lack of systematic assessment of outcomes and impact.

Table 2.8. Evolution of the NPDE (2010–2020)

Year	Number of national programs	Total budget (BGN)	Share (%) of total spending on preschool and school education	Programs with implementation report/info fiche	Programs with external evaluation reports
2010	12	80,411,300	4.6	8	8
2011	9	30,300,000	1.7	6	5
2012	9	34,644,935	2.0	8	4
2013	10	37,566,207	2.0	8	5
2014	10	95,875,855	4.8	6	4
2015	10	45,500,000	2.3	5	3
2016	9	50,394,000	2.4	6	3
2017	11	59,500,500	2.5	6	3
2018	13	63,430,000	2.4	7	2

[59] The funding access for schools and preschools under the national programs is project based and is transferred from MOES to the budget of the relevant first-level spending unit (municipality or line ministry) and then to the respective school/preschool. The national programs also provide resources for the development and financing of municipal programs for the development of education, where the measures and activities envisaged in the national program are intended to be planned, organized, and implemented most efficiently at the municipal level (as desegregation policies).

Year	Number of national programs	Total budget (BGN)	Share (%) of total spending on preschool and school education	Programs with implementation report/info fiche	Programs with external evaluation reports
2019	17	76,000,000	n.a.	8	2
2020	21	139,650,000	n.a.	16	4

Source: Team calculations based on the national programs and World Bank BOOST database.

Table 2.9. NPDEs of 2019 addressing teacher policies

NPDE	Scope	Monitoring	Reporting	Evaluation
Qualification	Funding for CPD based on priorities announced through the program	Yes – feedback from participants	Yes	No
Motivated Teachers	Providing resources for (a) Appointment of motivated and experienced teachers in mathematics, physics and astronomy, computer sciences, and IT in distressed schools with identified needs—additional remuneration (BGN 300 in addition to the basic salary) and reimbursement of renting costs (BGN 200 per month) for 12 months or reimbursement of transportation costs for traveling teachers and for training; (b) Training for acquiring a professional teacher qualification for specialists holding a master's degree in mathematics, physics and astronomy, computer sciences and IT, and foreign languages but without professional teacher qualification and pedagogical experience; and (c) Training for additional qualification for teachers in mathematics, physics and astronomy, computer sciences and IT, foreign languages, and religion.	Yes – RDE, MOES	—	Yes
Student Olympiads and Competitions	Providing funding for remuneration of teachers who work with talented students	Yes – RDE	—	Yes
Together in the Care for Students	Financing teacher remuneration for up to 10 hours of additional work (outside the mandatory teaching hours), including for preparing additional learning resources, home visits, and so on	Yes – RDE	Yes	—
Optimization of the Internal Structure of the Personnel	Compensating for teacher redundancies due to restructuring of institutions, optimization of the schools' network, closure of schools, and so on	Yes – RDE	—	—
Without Free School Hour	Providing additional funds for remuneration of replacements of absent teachers	Yes -RDE, MOES	Yes	—
Provision of Contemporary Education Environment	Modernizing the facilities of vocational schools Improving the conditions for experimental work on natural science in profiled education Introducing cultural institutions as an educational environment	Yes	Yes	—
IT Business Teaches	200 teachers participating in IT trainings (at least 16 hours) or projects (20–40 working hours) in IT companies One of the goals of the program is to facilitate the cooperation between schools and business and to create more opportunities in the future for representatives of the business to co-teach, lead school projects, and so on.	Yes – RDE	—	—
Training for an IT Career	Promoting IT education (mainly in vocational schools) and preparing specialists ready for the labor market after graduating upper secondary education. Although not exclusively 'competence based', the program aims at providing participating students with all the skills they need to be successful on the IT labor market. An important part of the program addresses the development of a new curriculum and training materials as	Yes – RDE	—	—

NPDE	Scope	Monitoring	Reporting	Evaluation
	'training will be delivered on the basis of a State Educational Standard developed by the business in accordance with its needs'.			
National Program 'Providing School STEM Environment' (2020)	Holistic approach to key competences acquisition through improving learning and providing appropriate training for teachers	Yes	Yes	—

During the 2019 budget period, two NPDEs were considered by MOES as programs supporting the process of implementation of competence-based learning at schools:[60] 'Provision of Contemporary Education Environment' and Qualification. In addition, the recent NPDEs 'IT Business Teaches' (2019) and 'Ready for an IT Career' (2018) and the National Program 'Providing school STEM environment' (2020) have had an impact on competence-based learning. The list of programs above presents a selection of NPDEs that have contributed to any element of teacher policies—additional resources for school staffing policies, including for compensations in case of redundancies; additional resources for attracting talented and motivated teachers; additional resources for delivery of specialized training; and additional resources for introducing various monetary incentives. The mix of indicators to monitor the progress under all programs does not reflect learning outcomes and is limited to simple quantitative measurements as indicated in Table 2.10.

Table 2.10. NPDEs addressing key competence learning,[a] key indicators

Program name	Key program indicators
Providing Contemporary Educational Environment	• Upgraded vocational education learning environment in 20 vocational schools • Number of students in grade X whose experimental work during the 2019/2020 school year was supported by the additional financing of the program: 53,000 • Number of schools and centers for personal development that have received additional funds for experimental work in natural sciences: 1,000 • Number of schools with new classrooms and/or laboratories for practical training in the area of physics, astronomy, chemistry, and environmental protection or biology and health education: 15 • Number of students enrolled in the extracurricular activities supported by the program: 1,750 • Number of students who have participated in compulsory, elective, and optional classes in museums, galleries, or theaters: 7,000 • Number of children and students with special needs who were supported by the program: up to 2,500 • Number of personal development support centers which have equipped specialized rooms through the program: up to 40
Qualification	• Number of pedagogical specialists who have participated in trainings: up to 2,400 • Number of discussion forums held: 3 • Number of conferences held: 4 • Number of documents prepared: 2 reports • Number of certificates issued for qualification credits • Number of studies conducted: 1
IT Business Teaches	• Number of workshops: 500 • Number of teachers who participated in workshops in IT companies: 200 • Number of hours spent in the presence of representatives of IT companies: 900 academic hours • Number of teachers involved in projects of IT companies: 50
Ready for an IT Career	• School-university-IT company partnerships: 5 • Number of teachers trained: minimum 30 • Number of students enrolled in the program, for the 2019/2020 school year: 450 • Number of students who successfully passed the test for the first stage of the program: minimum 150 • Number of students who successfully passed the test for the second stage of the program: minimum 100 • Number of students who successfully passed the third stage of the program: minimum 75

[60] Based on interviews with MOES experts.

Note: a. World Bank section based on content review.

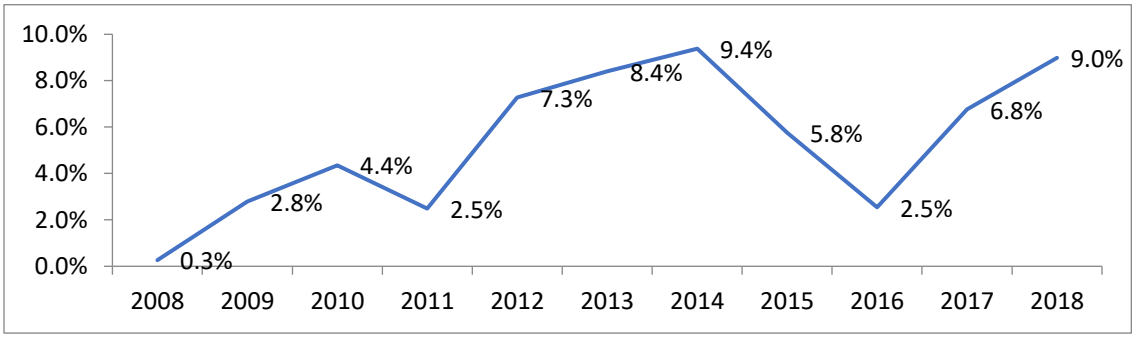
The EU funds are a key source of funding for workforce and capital investments with strong potential to influence reforms and critical areas of policy actions. The distribution of funds among spending categories went through major restructuring in the last five years: while 59.1 percent of the EU funding was spent on personnel cost in 2014, the personnel spending decreased to 22.5 percent in 2018. At the same time, the share of EU funding of capital investment in schools and kindergartens (mainly investments in the modernization of educational infrastructure) increased from 9.5 percent in 2014 to 57.4 percent in 2018. For 2007–2015, Bulgaria spent BGN 1.2 billion EU grants on education. Since the beginning of the new EU funds programming period in 2014 until 2018, the EU funds invested in education amount to an additional BGN 1.16 billion and it is expected that the executed amounts of EU finding will reach some BGN 1.7 billion by 2020. In 2018, approximately 9 percent of total public spending on education was financed by the EU funds, corresponding to BGN 358.6 million.

Table 2.11. Distribution of EU funding for school education

	2014	2015	2016	2017	2018
EU funding for school education by source					
EU cohesion and structural funds	92.2	79.4	47.0	88.8	86.8
Other European funds	6.1	8.3	7.5	10.0	13.3
EU agricultural fund	1.7	3.4	8.5	1.1	3.5
Distribution of EU funding by type of expenditure					
Personnel	59.1	57.4	32.1	38.6	22.5
Non-personnel recurrent	31.4	38.5	60.9	25.5	20.1
Capital	9.5	4.1	7.0	35.9	57.4

Source: World Bank BOOST database.
Note: The table includes data for EU funding for kindergartens and all types of schools. It does not include EU funding for additional institutions such as hostels, personality development centers, canteens, recreational camps, and observatories.

Figure 2.21. Share of EU funding in total public spending on education



Source: World Bank BOOST database.

Of 15 programs, 7 at the system level (under PA 2 and PA 3) granted to MOES, co-funded by EU funds, directly address teacher policies. Through those system-level investments, MOES finances wide-ranging policies in the field of education—from the support of the preschool system through projects aimed at the reduction of early leavers and support for children at risk through projects for career development students and practical internships in higher education. While most of the projects directed to schools and preschools include financial stimuli for teachers, the highlighted projects in Table 2.12 have a specific component addressing teachers—mainly capacity-building activities and measures directly contributing to CPD. In general, projects focused on qualification have been

designed to address several specific policy objectives of the OPSESG set up in compliance with the policy objectives of the EU and Bulgaria's strategic planning.[61]

Table 2.12. ESF funding for system-level projects with indicated projects addressing teacher policies

Project name	Contract	Short description	Grant (BGN)
BG05M2OP001-3.003-0001-C06 Support for Equal Access and Personal Development	December 22.12.2015	Activities for support of the education and personal development of children ages 3 to 6 at risk of learning difficulties, children and students with special educational needs (SEN), and students with deviant behavior	16,852,080.00
BG05M2OP001-2.001-0001-C07 System for Career Guidance in School Education	11.01.2016	Development of working career guidance system in 28 administrative areas	5,201,235.00
BG05M2OP001-2.002-0001-C06 Internships for University Students	29.03.2016	Financing of practical student internships	35,821,371.38
BG05M2OP001-2.003-0001-C05 Students Scholarships – Phase I	29.03.2016	Scholarships for students in certain areas of higher education, identified as having priority for the country	28,000,000.00
BG05M2OP001-2.005-0001-C07 Maintenance and Improvement of the Developed University Ranking System	15.06.2016	Improvement of the Bulgarian University Ranking System	2,167,561.09
BG05M2OP001-2.004-0004-C04 Development of the Students' Abilities and Raising Their Motivation for Learning through Activities Building Specific Knowledge, Skills and Competences (Your Class) – Phase 1	29.07.2016	Assessing individual needs of students and the developments of their talents and skills in preferred fields. It aims to increase the success of students and keep them in the education system.	105,237,182.00
BG05M2OP001-3.004-0001-C04 New Chance for Success	21.09.2016	The main activity of the project is to facilitate further access to general education and vocational training and thus facilitate participation on the labor market.	19,070,732.00
BG05M2OP001-2.006-0001-C06 Internships for Students from Vocational Schools	08.11.2016	Improvement of the compatibility of the vocational education and the business requirements through internships	6,986,236.00
BG05M2OP001-2.007-0001-C04 Implementation of Credits in the Vocational Education and Training (VET) System	12.01.2017	The project is aimed at creating prerequisites for the realization of results-oriented VET.	2,000,000.00
BG05M2OP001-2.010-0001-C01 Qualification for Professional Development of Pedagogical Specialists	04.10.2018	Qualification training in compliance with the PSSEA is offered to pedagogical specialists.	19,911,123.00
BG05M2OP001-2.011-0001-C01 Support for Success	28.02.2019	Reduction of early leavers through development of a system for identification of early leavers and providing support	127,759,359.94
BG05M2OP001-3.005-0004-C01 Active inclusion in the Preschool Education System	16.05.2019	The project aims at widening access to preschool education for children from vulnerable groups and those living in poverty.	82,500,000.00
BG05M2OP001-2.012-0001-C01 Education for Tomorrow	15.10.2019	Modernization of the school education by means of digitization	104,959,178.01
BG05M2OP001-2.013-0001-C02 Student Practices – Phase 2	13.01.2020	Practical training for higher education students aimed at making the connection between education and business	46,000,000.00
BG05M2OP001-2.014-0001-C01 Support for the Dual Training system	03.02.2020	Development of the dual form of education which would allow for internships in partner companies	24,425,618.58

Source: 2020.eufunds.bg, OPSESG, last visited on July 30, 2020.

[61] OPSESG, version 3.0, 31.10.2019, p. 8–10.

Table 2.13. Goals and indicators of system-level projects focused on teacher policies

Project name	Specific policy objectives of OPSESG	Indicators
(2015) BG05M2OP001-3.003-0001-C06 Support for Equal Access and Personal Development	Reducing the number of early school leavers	34 kindergartens: support for the inclusive environment for early prevention of learning difficulties 1,907 children ages 3 to 6 who received services aimed at preventing educational difficulties (exceeding the target value more than 7 times) 3,159 children and school students with SEN participating in activities supported by the project (in comparison to the target 1,800)
	Addressing the needs of SEN students	
(2016) BG05M2OP001-2.001-0001-C07 System for Career Guidance in School Education	Reducing the number of early school leavers	107,132 school students were involved in career guidance activities under the project in 28 career guidance centers. Approximately one-fifth of the students involved received individual career guidance consultation.
	Labor market conformity of education	
(2016) BG05M2OP001-3.004-0001-C04 New Chance for Success	Integration and reintegration of students from disadvantaged background	Number of persons over 16 years old (including Roma) who were involved in training under the project
(2018) BG05M2OP001-2.010-0001-C01 Qualification for Professional Development of Pedagogical Specialists	Labor market conformity of education	5,000 pedagogical specialists involved in training in the application of modern assessment methods 30,000 pedagogical specialists ages 35–54 enrolled in qualifications courses 4,000 pedagogical specialists above 34 years enrolled in qualification courses
	Addressing the needs of SEN students	
(2019) BG05M2OP001-2.012-0001-C01 Education for Tomorrow	Reducing the number of early school leavers	2,000 schools and kindergartens in activities for implementation of contemporary methods of teaching through use of contemporary ICT 26,900 pedagogical specialists who would be included in training for learning, implementation, and use of innovative methods for teaching through use of contemporary ICT 220,000 students who would participate in the project
	Addressing the needs of SEN students	
(2019) BG05M2OP001-3.005-0004-C01 Active Inclusion in the Preschool Education System	Reducing the number of early school leavers	50,000 children participating in activities for active inclusion in the preschool educational system (including kids from marginalized communities, including Roma participating in measures for educational integration and reintegration). 40,000 kids included in the system of preschool education (including kids from marginalized communities, including Roma, participating in the educational system). 1,500 kindergartens that shall be supported under the project for provision of *active inclusion environment* in the system of preschool education, including early prevention of learning difficulties.
	Addressing the needs of SEN students	
	Integration and reintegration of students from disadvantaged background	
(2020) BG05M2OP001-2.014-0001-C01 Support for the Dual Training S	Reducing the number of early school leavers	147 VET schools to introduce the dual system 55% of the students in vocational education covered
	Labor market conformity of education	

Note: ICT = Information and communication technology.

Recommendation: To position learning at the heart of the educational system, an improved coherence between policy elements and approaches is needed. The wide and successful outreach to students, teachers, and education institutions demonstrates the operational readiness and potential of the educational system to mobilize coverage with services and activities. Bulgaria needs to invest in ambitious policy objectives that directly address learning. As a result of the increasing number of programs that reflect an enriched approach on 'how' to address education challenges and learning, Bulgaria needs to ramp up its programming and assessment policies to directly address specific learning outcomes and to contribute to the specific learning goals. This should be done by building on the strong experience of MOES to implement programs co-funded by the EU in 2016–2020 as well as on the wide NDPE programming. Among policy targets, including under teacher policies, as demonstrated above, despite the multitopic policy contribution, the scope of planning and the instruments for measuring the effects and outcomes follow a basic administrative envelop focused on quantitative evidence of participants and processes. Putting learning at the core requires coherent and aligned policies that establish clear definitions of learning goals and clear expectations for students in terms of learning outcomes (competences) and for teachers in terms of professional competences and practices.

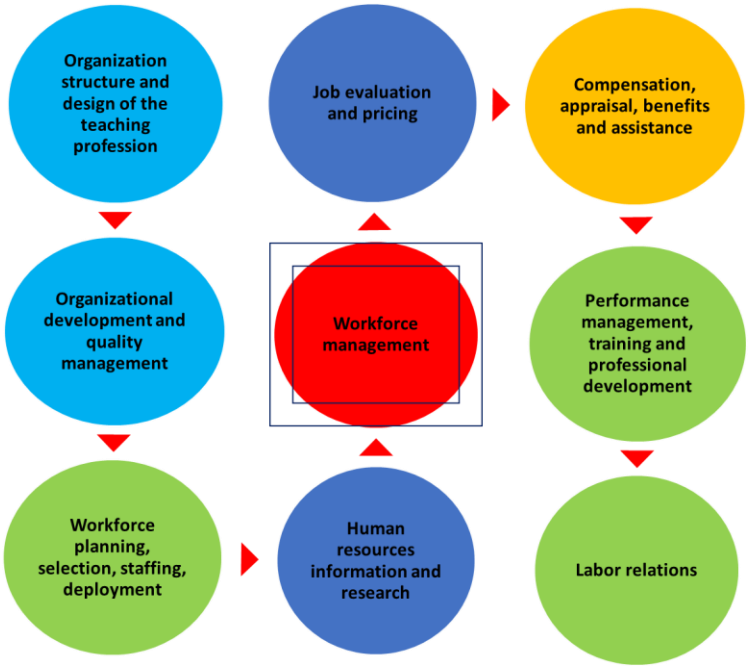
CHAPTER 3. Workforce Policy Standards, Incentives and Planning

- To what degree do human resource development policies, instruments, and processes support the organization of the workforce in Bulgaria's education institutions? Where does the education system stand in attracting, developing, and retaining talent and developing in teachers the required attitudes, skills, and competences to ensure the human capital formation needed to succeed and sustain in producing highly competitive graduates? This chapter assesses the current policies and practices in relation to managing the school workforce, including teachers, leaders, and other nonteaching staff. The chapter focuses on four areas of management: (a) strategic management, (b) process management (focusing on delegation of functions), (c) human resources management (HRM) (focusing on preparation and training), and (d) internal coordination and communication. The assessment investigates a set of eight dimensions of workforce policies (see To put all those aspects in the specific Bulgaria context, the analysis draws attention to key policy outcomes specifically addressing workforce.

As all those elements are interrelated to compose the spectrum of teacher policy by following the natural chain of policy and practice needs, the analysis addresses them using the following approach:

- The general structure and design of the profession is addressed in conjunction with evaluation, appraisal and performance management;
- Policy development and quality aspects are chained with performance, data resources and planning;
- Due to the overarching role of research and information on HRM, related findings are covered across the thematic groups;
- To put all those aspects in the specific Bulgaria context, the analysis draws attention to key policy outcomes specifically addressing workforce.

Figure 3.1. Dimensions of the assessment of workforce planning and management to meet the needs of education institutions



System level workforce management outcomes

Productivity, quality conditions, satisfaction, human resource development, readiness for change, job security, compensation, benefits, and motivating teachers

TALIS survey results show that the satisfaction of experienced teachers with the profession is lower than among novice teachers. The perception of the value that society gives to teaching decreases with the duration of the work experience.[62] Hence, it is not surprising that in Bulgaria, one of the countries with the highest average teacher age, teachers who believe that the teaching profession is valued in society constitute 19.6 percent compared to an average of 31 percent in TALIS-surveyed countries.[63] Despite reported challenges, about 95 percent of teachers are satisfied with their job. Available evidence suggests the status of the profession is low generally but possibly improving because of perception of raising salaries. Working conditions and advancement opportunities are perceived negatively compared to alternatives. The system for wages and benefits has long tradition over the years. There are a lot of benefits achieved over the years due to the efforts of the unions, such as the paid annual leave, the opportunity for the teachers to prepare their lessons outside the school, and labor contract with guaranteed social securities.

Teacher wages dominate policy efforts while teacher supply or demand issues need to be more comprehensively addressed. The commitment to double teacher salaries through 2021 was a measure that by political, expert, and popular point of view has had a positive, though not yet formally quantified, effect on increasing the 'interest in the teaching profession' and possibly teaching quality.[64] Base salary levels are centrally determined by the government in consultation with trade unions. Salaries have increased 10–15 percent annually over a period of three consecutive years. The declared goal is to set the average teacher salary at 120 percent of the average wage for the country. There are limited additional incentives for teachers working in hard-to-staff schools. Teacher remuneration is further increased through annual bonuses, professional clothing voucher, payment for teaching additional classes, and taking on certain administrative responsibilities, however, these monetary benefits are more important for retention rather than for attracting teachers in the profession. Teachers base salary increases incrementally based purely on tenure. Beyond the base salary, teachers are paid additional increments for additional administrative duties and for participation in activities funded through national or European-funded programs. Costs associated with commuting and professional clothing purchases are also reimbursed annually within set limits. The current model of compensation is not attractive to high-performing young graduates and professionals. Among all social service providing professionals, kindergarten teachers receive the highest remuneration (commensurate with school teachers) which might contribute to the desirability of the profession.

Table 3.1. Policy measures to motivate teachers

	Responsibility for regulation and implementation	Key recent changes
Job security, compensation, and benefits	Labor Code and the annual CLA (negotiated between MOES, the Ministry of Finance, and social partners), funded through the delegated budget	Political commitment to increase salaries in education
Additional for-pay opportunities (for example,	Coordinated by MOES with opt-in by school principals and funded through national and EU programs	No recent changes

[62] OECD, TALIS 2018. Table I.4.34

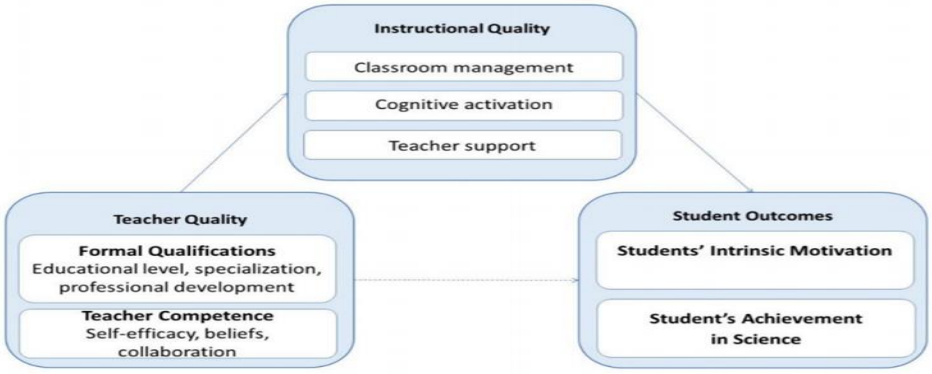
[63] http://www.oecd.org/education/school/TALIS-Country-profile-Bulgaria.pdf.

[64] We are not aware how that target was set and what the underlying benchmark would be.

	Responsibility for regulation and implementation	Key recent changes
proctoring, mentoring, and extracurricular activities)		
Career ladder	Regulated by MOES and implemented by school principals	Defined in Ordinance No. 15
Performance incentives	Financial bonus pool regulated by MOES and funded through the delegated school budget; allocation principles regulated by MOES; allocation decisions delegated to the principal. Annual distinctions awarded by the president, MOES, Regional Education Authorities, and the teacher unions Negative performance incentives: penalties for underperformance set in the Labor Code and implementation delegated to principals	Ordinance No. 15 makes it clear that it is possible to be promoted based on a positive evaluation and not just tenure

To shed light on the achievement of teacher policies on learning outcomes[65], an analysis of available data from international largescale assessments that Bulgaria regularly takes part in, namely TIMSS 2015, ICCS 2016, TALIS 2018 and PISA 2018, was conducted. The analysis used a variant of a model (figure 3.2.) focused on teachers with constructs presented in a structural relationship to one another with "teacher quality" defined in terms of formal qualifications and teacher competence. Teacher quality in its turn leads to "instructional quality" with enhancement of instructional quality leading to improvement in student outcomes which are in turn in a direct relationship with teacher quality.[66] The model seeks to understand the magnitude of the relationships and draws policy inferences by comparing the results with the comparator countries.[67]

Figure 3.2. Theoretical framework for the relations between teacher quality, instructional quality and student outcomes



Source: *Northern Lights on TIMSS and PISA 2018*, Nordic Council of Ministers

[65] The policy analytical framework used (see Annex 6) by the report is based on placing learning at the core of the education process with teacher policies and measures radiating from this central objective.

[66] The analysis uses a variant of the model presented by Nilsen, Scherer and Blömeke for Scandinavian countries in Nordic Council of Ministers report "Northern Lights on TIMSS and PISA 2018", focused on issue of teachers. https://www.norden.org/en/publication/northern-lights-timss-and-pisa-2018".

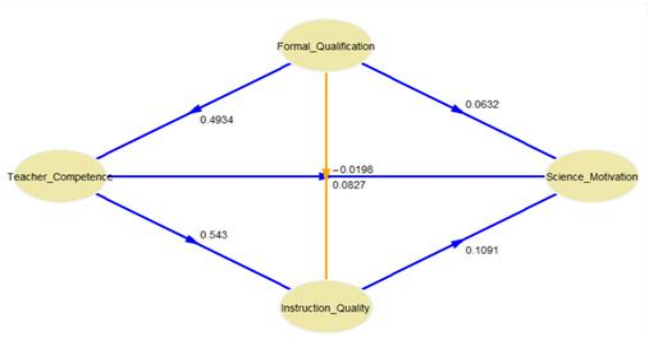
[67] Estonia is not present in TIMSS 2015.

Analysis of international assessments data from TIMSS in which Bulgaria performs consistently well, shows that, nevertheless, the country scores lower than the average for all other participant countries in terms of teacher competences, quality of instructional skills and ultimately their impact on improving student outcomes or on the motivation of teachers.

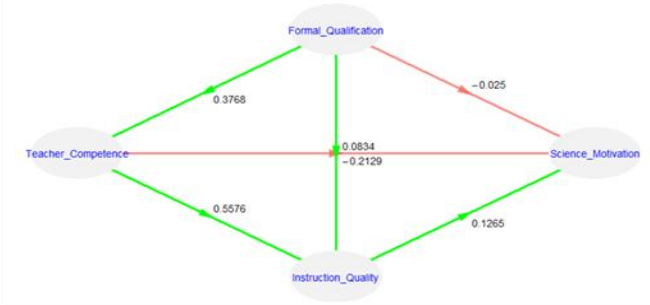
Teacher qualifications in terms of years of experience, ITE degree, and major of study are not directly linked with teachers' motivation to deliver core subjects such as mathematics and science. The combination of these qualifications with the practical competences of teaching and self-confidence in teachers` abilities of instructional quality is associated with high motivation which in the case of Bulgaria is below the average for all participating countries.

Figure 3.3. Relationship between qualifications and teacher motivation TIMSS 2015

All participating countries in TIMSS



Bulgaria



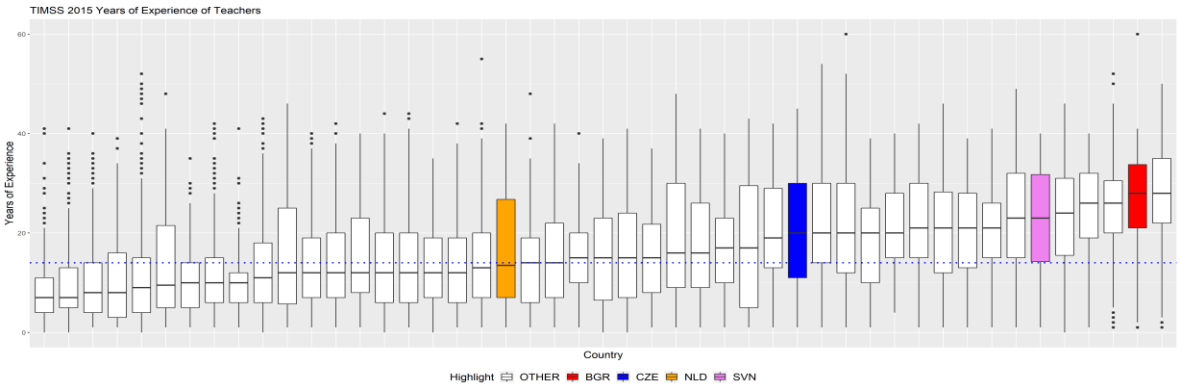
In terms of years of experience of teachers, Bulgaria ranks among the highest in the region. While the recent policy investments were focused heavily on continuing professional qualification and development training, the total hours allocated for CPD on the crucial competency subjects is not the same, relative to other countries. This might have many explanations:

(a) While teachers in Bulgaria attend a lot of professional development trainings, the amount of focused training targeting the core subjects is not enough, relative to other countries.

(b) Older teachers are not willing to change their practices nor interested in deepening their understanding or the advancement of student understanding of math and science subjects.

(c) The offerings are not balanced in terms of their focus on the foundations of the competence-based curriculum.

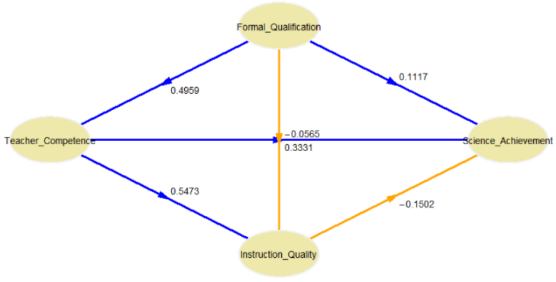
Figure 3.4. Age and attendance of professional development



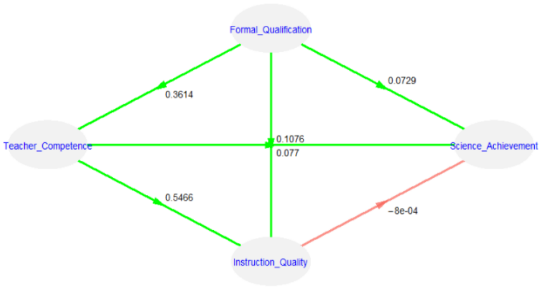
What is more, teacher's qualification, competency, and quality of instruction are not clearly translated into students' performance. It seems that there is a stronger contribution of qualifications to competences than to instructional qualification, but the weak link is in utilizing instructional quality and the ability of teachers to accomplish practices leading to the development of critical thinking and achieving high performance in science or math. While this phenomenon is similar to many countries, the direct contributions of the qualifications and competencies of teachers to performance are at a much lower level.

Figure 3.5. Relationship between qualifications and achievement of students TIMSS 2015

Other countries



Bulgaria



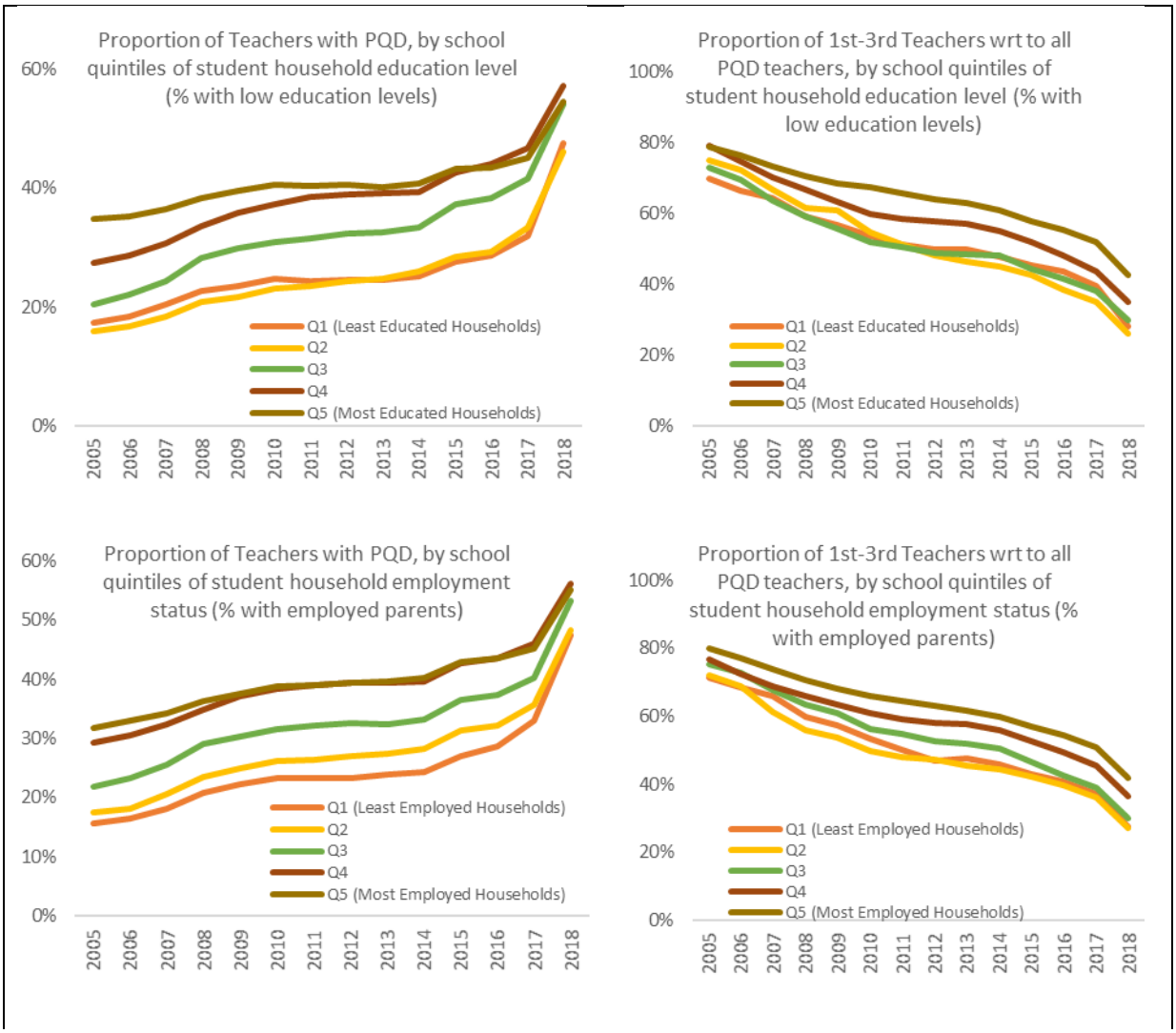
National data reveal the achievements and challenges of policy investments directed towards CPD. While formal qualifications have increased, teacher competences and quality of instruction are lagging behind the focus of policies. A growing body of research focused on education outcomes and functions suggests that teacher quality is not strongly correlated with easily measurable teacher credentials and characteristics like formal ITE degree and professional qualification levels, or experience measured in years teaching.

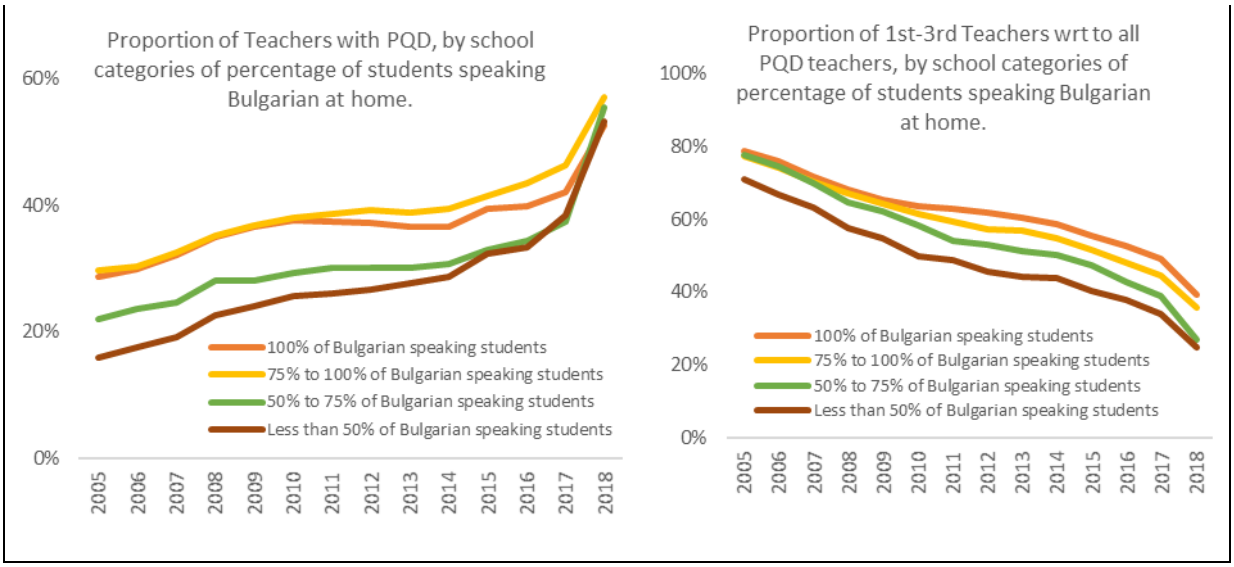
Differences in professional qualification degrees[68] are adding to the difference in initial qualifications of teachers by location. The proportion of teachers without proper qualifications is higher in areas with less educated and less employed households. In Bulgaria, acquiring PQDs is left to the personal choice and self-financing abilities of individual teachers and such training is in most cases neither organized nor subsidized at the school level. Hence, two potential explanations for the differences in percentages of teachers with PQDs by student socioeconomic status at schools could be (a) the advantage that high student

[68] Evidence addressing only the PQD element of CPD based on available school level data. The World Bank team will address the outcomes of the other CPD formats within Component 2 based on data provided by MOES in October 2020.

socioeconomic status schools (usually located in urban areas) have in terms of attracting teachers and having better resources and (b) the location of the school and the related additional travel hours and/or additional preparation for teaching.

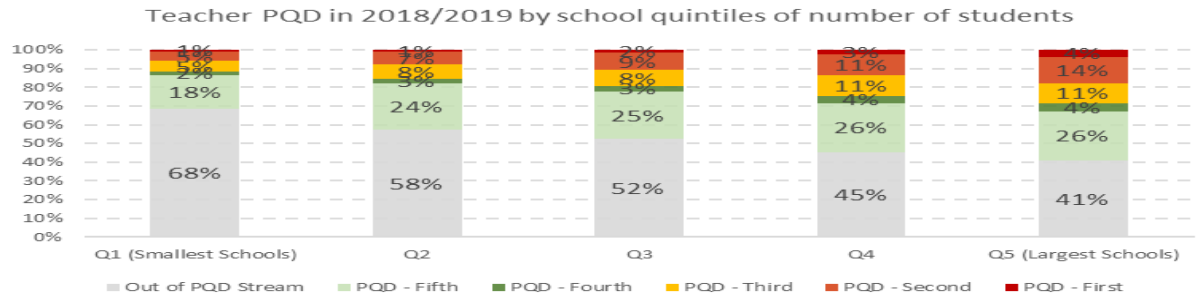
Figure 3.6. Evolution of PQD (share of PQD and share of first-to-third PQD teachers among PQD teachers) by school quintiles of student socioeconomic status and language spoken at home

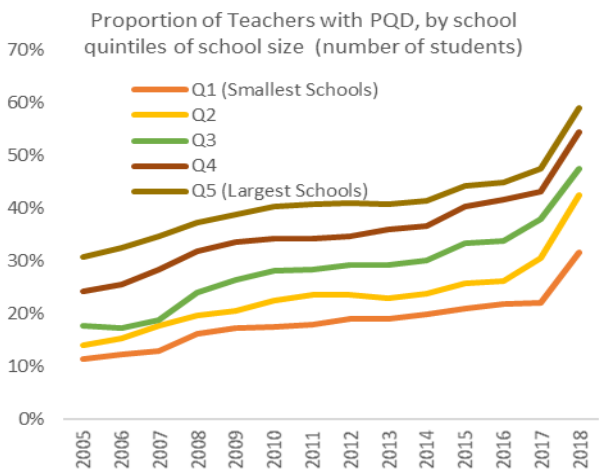


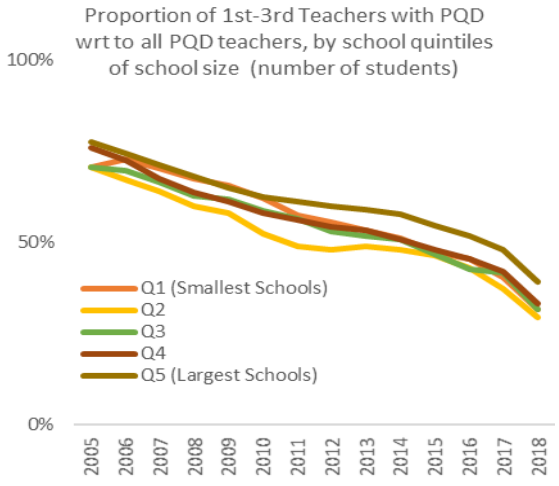


Differences by school size are larger throughout 2005–2018 meaning that larger schools have a higher share of teachers with PQDs during the same period.

Figure 3.7. Evolution of teacher PQD (share of teachers with a PQD and share of teachers with first-to-third PQD among them) by school quintiles of school size

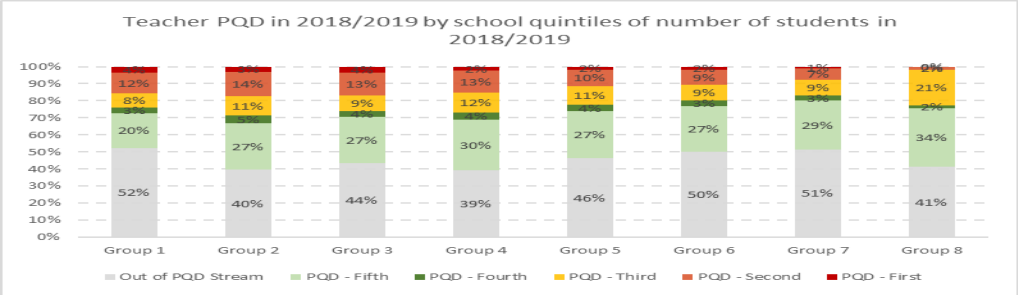






The observed differences may be closely related to the territorial gaps in access to PQD training and qualification, as well as the various differences in teacher preparedness, incentives, and motivation for PQD acquisition by school size. Funding is also a factor reflected in the observed differences.

Figure 3.8. Share of teachers with PQD by municipal funding group[69]



Based on the major trends in direct workforce policy outcomes listed above, the teacher workforce structure, process and main policy initiatives that address education professionals is reviewed below.

Structure and design of the teaching profession

How standards, qualifications, roles, and responsibilities are defined, organized, and integrated across schools and management units

Bulgaria continues to face a series of challenges related to the teaching workforce including (a) difficulties to attract and retain good teaching professionals, (b) increasing share of aging teachers, and (c) a widening mismatch between supply and demand of teacher skills. All these factors are directly or indirectly connected to the fact that the Bulgaria education system significantly lags most of its EU peers in terms of student performance in the large-scale international assessments, with clear indications for persistent large learning gaps. The magnitude of this mismatch is still not systematically and routinely assessed through proper data collection, needs assessment, or analysis of skills demand and supply related to teachers and other education professionals. Moreover, Bulgaria does not participate in the Programme for the International Assessment of Adult Competencies (PIAAC) which allows evaluation of teacher proficiency in key skills.

Policies and standards ensuring adequate qualification of teachers

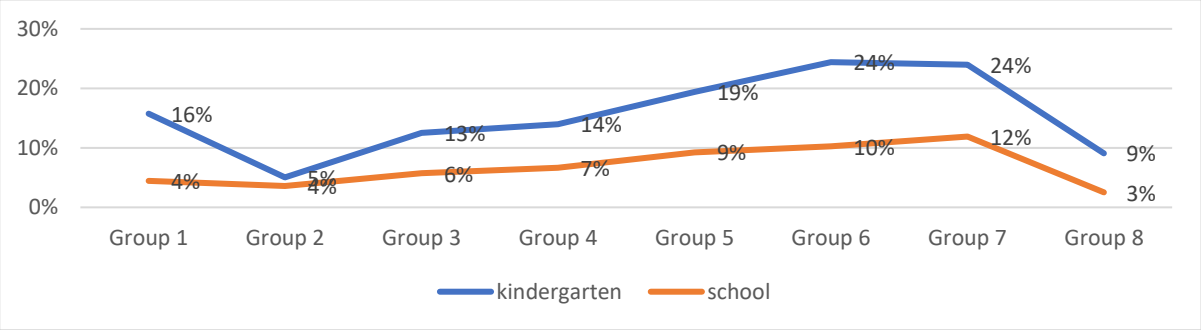
Bulgaria has been adopting progressive policies to strengthen its qualifications framework and upgrade the profile of the education workforce over the last decade. While these policies have led to increased qualification levels, many schools still have teachers without the expected qualifications. Specific competences such as knowledge, skills, and attitudes are needed for (a) teaching and performing management functions in the system, (b) guiding professional development and (c) career development, (d) performing self-assessment, and (e) participating in the appraisal process for education specialists (Ordinance No. 15 of 2019).[70] The system requires and ensures a higher education degree in a specific professional field for school and preschool teacher positions in

[69] Grouping of municipalities according to Ordinance for financing of institutions in the preschool and school education system of 2018

[70] Ordinance No. 15 of July 22, 2019, on the Status and Professional Development of Teachers, Directors and Headmasters, and Other Educationalists.

Bulgaria. There are two paths for obtaining the required minimum qualification for teachers: graduation with a bachelors' degree in (a) a professional pedagogy field that awards both higher education degree and professional qualification 'teacher' or (b) a specialty in other professional fields, preselected as eligible for teacher positions, succeeded by higher education training awarding professional qualification 'teacher' after successful state examination awarding a certificate for professional qualification . Regulations allow a teaching position to be occupied by a person who does not have a higher education degree or professional 'teacher' qualifications in which case the school presents a plan for the appointee to acquire pedagogical competences (PSSEA Art. 213). The requirement for school principals is a master's degree and a minimum five years of teaching experience. Principals in Bulgaria are required to teach and fulfill teaching hours quota in accordance with the education and professional qualifications they have acquired.

Figure 3.9. Unqualified teachers in schools and preschools by municipal funding type group (2018)



The professional profile requirements for teachers and principals comprise pedagogical, managerial, social, and civic competences. Teachers are expected to possess (a) age-appropriate pedagogy, cultural and diversity management and master key goals of the new legislation such as innovation, student-focused approaches, and others and (b) *social and civic competences* focused on teamwork, community connections, and professional development. The school leaders competences focus on (a) the quality of education process and strategic management at the institution level and (b) social and civic competences. The profile requirements are expected to guide and serve as a reference point for initial training and professional development programs. ITE programs are expected to guarantee that the elements of the standard (the list of competences) are fostered, practiced, and assessed during the university preparation of future education professionals. To guarantee quality, within the highly autonomous university system in Bulgaria, an accreditation system is in place to assess the range of BA, MA, and PhD programs offered in pedagogy among many other professional fields. Introducing competence-based learning and innovation in teaching requires CPD to address professional standards in three directions: (a) to foster competences that are subject to regular update and lifelong learning and develop competences needed for the existing workforce positions on a continuous basis, (b) to guarantee a flexible approach allowing different workforce cohorts who were taught under different teaching scope and competence focus to be rapidly included in a system for competence update and catching up, and (c) based on profile requirements and *specific student outcomes* (PSSEA Art. 212*)* to address specific professional development priorities formulated for every teacher and director.

A decree of February 1, 2021 introduces requirements for higher education institutions to ensure the acquisition of competencies for the teaching profession, given as annexes to the Ordinance on state requirements for acquiring

the professional qualification of teacher.[71]With this change in the regulatory framework from 2021, MOES introduces a requirement for a connection between the curricula of higher education institutions for primary education and the development of specific competencies in teachers. We are going to monitor the results that this policy will achieve in terms of methodological and practical training of teachers obtained in the initial training.[72].

Workforce preparation practices

There are vital policy decisions related to ITE programs that need to be considered:

- Time allocated to teaching practice at school should be increased significantly;
- Time allocated for topics not related to teacher work might be decreased;
- More time needs to be allocated to pedagogy;
- More self-learning opportunities for students in ITE programs should be created;
- Innovative teaching methods should be introduced at ITE programs (for example, 'teach as you preach' approach);
- Expansion of new learning environment use in teaching and learning at universities.

Universities are the main provider of workforce for preschool and school education in the country.[73] BA and MA degree and certificate granting programs in 'Pedagogy' and 'Pedagogy of …[*specific subject*] are offered in 13 (12 public and 1 private) of the total 54 universities.[74] In 2019 public universities offered 5,616 student places in ITE programs that were financially supported with public funding. The same year not all planned publicly financed places were filled (5,288 students admitted and started their education or 94 percent of planned places were filled). Based on information provided by MOES[75] during the university application campaign for 2020-2021 academic year, the interest in pedagogy related programs was very high. Financial incentives (wavers of tuition fees) for enrollment in these programs were introduced in 2020. The results from this policy in terms of promoting ITE programs and enhancing the number of graduates and students entering teaching are to be seen in order to be monitored and analyzed.

The issue remains with the number of graduates that has not varied significantly over the last few years (see Table 3.2). As per the 2019 Education Training Monitor, "Bulgaria will have to renew around half of primary and secondary school teachers in the next ten years" which accounts for around 36,575 people. The 2019 admission levels also show the future drop in the number of graduates'. MOES finances all types of pedagogy programs by providing a per capita subsidy to universities. The state financing covers all student places for BA programs and a

[71] Adopted by CMD № 289 of 7.11.2016, promulgated, SG, iss. 89 of 11.11.2016, in force from the academic year 2017/2018, supplemented, no. 105 of 18.12.2018, in force since 18.12.2018, amended. and add., no. 10 of 5.02.2021

[72] The addition was made in connection with a comment from the Ministry of Education and Science in April 2021.

[73] Minimum requirement to become a teacher in Bulgaria is to have a bachelor's degree (BA) in pedagogy or subject area of specialization (such as math, philology, and biology) that gives a teaching certificate. Certificate can also be obtained for BA degree holders through retraining programs (additional teaching qualification) or MA programs provided only by universities.

[74] Information for the total number of HEI from NSI, latest available for academic year 2019-2020 г. BA and MA degree and certificate granting programs in 'Pedagogy' (10 of 13) and 'Pedagogy of …[*specific subject*] (11 of 13) from Bulgarian University Rating System

[75] Based on comment and information provided by MOES in April 2021.

small part for MA programs. As funding is attributed per student admitted[76], universities are incentivized to offer large enrollment programs and allocate capacity to teacher training (see Table 3.2).

Table 3.2. Number of graduates for 'Pedagogy' and 'Pedagogy of …' BA and MA programs (public universities)

	2016	2017	2018	2019
Bachelor	2,708	2,564	2,671	2,574
Masters	2,876	2,742	2,796	3,057
Total	5,584	5,306	5,467	5,631

There are multiple formal pathways to obtaining teacher qualification in Bulgaria. Policy incentives and available data are formally tied to those who go through a degree in pedagogy sciences though there are also pathways to a formal qualification outside of the pedagogy sciences professional field. The ITE policy approach is not distinguishing between preschool and primary school teachers who are lumped in the same general category from the standpoint of data and incentives.

Table 3.3. Formal pathways by type of teacher

Type of teacher	Permitted pathways that are formally monitored by MOES[a]	Permitted pathways that are not formally monitored by MOES[b]
Preschool teacher Primary teacher	• BA in pedagogy + PQ in pedagogy • BA in related or general subjects, MA + PQ in pedagogy • BA in any subject, MA + PQ in pedagogy	• BA in related subjects, PQ in pedagogy • BA or MA in related or general subject, APQ in pedagogy
Subject teacher	• BA + PQ in pedagogy of • BA in general or related subject, MA + PQ in pedagogy of… • BA in any subject, MA + PQ in pedagogy of…	• BA in general subject, PQ in pedagogy of… • BA or MA in general or related subject, APQ in pedagogy of…

Note: a. Students and graduates in this category are tracked by the BURS through AdminUni. Formal incentives tied to BURS data. b. Students and graduates of this category are not tracked by the BURS, only by universities. It is possible that these data exist in the AdminUNI database.

Pedagogy programs cannot afford to be selective due to the high number of openings available and the incentives universities have to fill the slots and collect the per capita government subsidy. Admission to universities is based on the high-school grade point average (GPA). Table 3.4. lists the GPA of students in pedagogy and compares it to the averages during 2013–2019. Despite a slight increase over time, the GPA of future teachers remains below average – the highest-performing graduates are not usually attracted by the teaching profession. This leads to large amounts of public funds being spent without attaining the desired effect—more well-prepared teachers in the

[76] In addition, special incentivizing programs were introduced at the national level to encourage candidates to enter the teaching profession.

system. Around 40 percent of graduates for the 'Pedagogy' programs and 65 percent of graduates for the 'Pedagogy of …' programs do not become teachers after graduation (see Table 3.2).

Table 3.4. Admission cutoff GPAs for professional programs

Professional track	2013	2014	2015	2016	2017	2018	2019
Pedagogy	4.88	4.9	4.91	4.88	4.83	4.84	4.89
Pedagogy of …	4.57	4.66	4.71	4.69	4.68	4.71	4.78
Average GPA (all tracks)	5.02	4.98	4.97	4.96	4.95	4.97	5.00
Top GPA (medicine track)	5.55	5.55	5.55	5.55	5.57	5.63	5.63
Lowest GPA each year	n.a.	4.20	4.23	4.16	4.29	4.27	4.38

Applicants to initial training education programs are not screened for the mind-sets, motivation, and strengths and weakness that predict that they would apply themselves during their study and/or go on to teach. The high number of available slots in teacher qualification programs provides an easy entry to university diploma to applicants who are not interested in teaching but rather want to obtain a BA degree without plans to seek employment in the field of education. This lowers the prestige of the programs and acts as a further deterrent – high-performing secondary school graduates tend to find selective programs (medicine, public policy, economics, etc.) more attractive. International evidence shows that more selective ITE programs during the admission process raise the status and quality of teacher education in the country (see text box below). Moreover, there is a concern that using only school education diploma results as an entry requirement does not give enough flexibility in identification of the most adequate candidates. Even though this might be challenging, there is a clear need for at least an experimental more selective ITE program admission in terms of identifying better prepared students and those who are interested in teacher profession.

Some guidance on prerequisites of higher education degree programs for ITE is provided through the Higher Education Act, the Ordinance on the State Requirements for Acquiring the Professional Qualification of a Teacher, and Ordinance No. 15 of the status and professional development of teachers. However, the education program at universities does not have explicit standards or Dublin Descriptors adopted at the national level to ensure that learning outcomes are achieved.

Practice in the Czech Republic

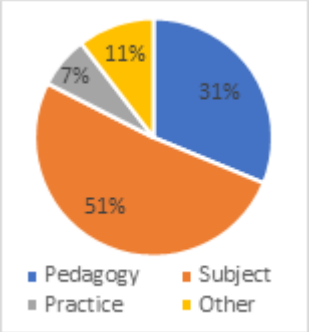
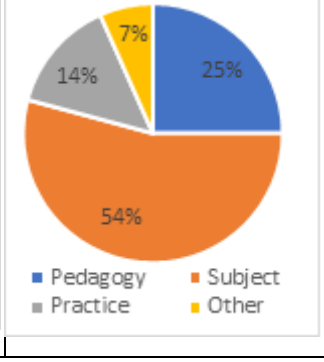
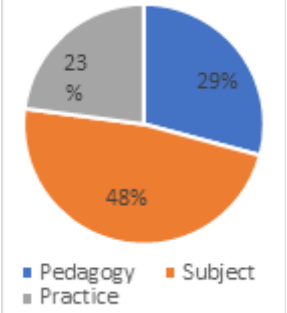
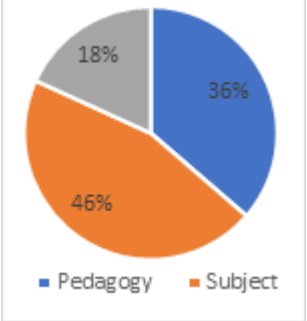
The Czech Republic has increased the quality of ITE and novice teachers by a combination of three policy measures:

- Entrance exam for ITE students: It includes a general test, subject examination (written and oral), and an interview on motivation and suitability.
- State exam for ITE graduates to guarantee meeting the standards.
- Accreditation of the teacher training programs: Only accredited courses are allowed and not all programs get accreditation.

School-based practice is not at the focus of university programs while non-specific courses are often placed in ITE. Comparing ITE programs structure at three Bulgarian universities with benchmarks from the United Kingdom and Ireland (see Table 3.5.) shows that Bulgarian universities do not keep enough attention to practice at schools and provide too many additional courses not related to future teaching work. Also, there is a slight disproportion with courses related to the subject, which overwhelm courses related to the pedagogy. The most challenging situation with ITE content is related to practice in the classroom. Even at Veliko Turnovo University, where the time allocated

to practice is comparable to benchmarks (34 ECTS[77]), we find that the actual teaching practice in classroom is equal to 15–20 hours, which is less than 1 ECTS. There were pilots on changing the content of pedagogical programs by shortening the time of studies through combining theoretical instruction with the acquisition of practical experience allowing trainees to teach classes while being supported by an experienced mentor. The experiment was initiated by MOES between 2016 and 2019 with EU funding support. The external evaluation of the program carried out by a team from the University of Duisburg-Essen demonstrated that these teachers are of the equal quality as those who completed a BA program.

Table 3.5. Comparison between selected Bulgarian program and programs in Europe

Bulgaria: 4-years BA Sofia University, Math and Informatics Teacher		Bulgaria: 4-year BA University of Veliko Turnovo, Math and Informatics teacher		Ireland: 4-years BA National University of Ireland Galway, Mathematics and Education		UK: 3-year BSc Edge Hill University, Secondary Mathematics Education with QTS	
Total	240	Total	240	Total	240	Total	220
Pedagogy	75	Pedagogy	60	Pedagogy	70	Pedagogy	80
Academic Subject	123	Academic Subject	130	Academic Subject	115	Academic Subject	100
Practice	17	Practice	34	Practice	55	Practice	40
Other	25	Other	16	Other	0	Other	0
							

In addition to the content-related challenges of ITE programs, aspects related to teaching are important as in future students usually replicate teaching practices of their university professors . ITE programs at universities are taught through traditional lectures/seminars that do not give students a chance to learn new teaching methods to be used in schools: project work, group work, discussions, and so on. The learning environment in universities is also traditional, thus not leading future teachers to be innovative with it in their job places. Most of the university training is done in classes with little self-learning opportunities, which leads young teachers to the practice of repetition and prevents them from developing and practicing their own new personal ways of teaching and interaction. Best international practices show that a vital element of authentic learning opportunities is 'teach as you preach' approach. That is, new models of teaching and learning and emerging evidence need to be reflected in the delivery of teacher education.

[77] ECTS = European Credit Transfer and Accumulation System.

Hiring, remuneration and setting conditions of employment

The process of hiring is still traditional and could benefit from strategic planning for both preschool and school level and incentivize qualified teachers and principals to work at schools that need them the most. There are centrally established standards for base salary levels per grade in the teaching career ladder. The overarching framework (Ordinance No. 4/20.04.2017 on labor standards and remuneration of labor) considers school based HRM, central government, and teacher unions (through collective labor agreement [CLA]). It includes the state educational standard for labor hours and remuneration of labor of teachers and defines the (a) minimum standards of obligatory teaching hours, (b) elements of remuneration, (c) minimum levels of teacher salaries for the different staff categories, and (d) indicators for evaluation of teacher performance used for calculation of performance-based payments. Teacher salaries are conditional on (a) the regulated minimum (base) salary established centrally, (b) the CLA and/or the internal school wage regulations, and (c) the annual appropriations established within the approved school budget. The base salary is calculated o the bases of (a) the number of teaching hours per month, (b) the centrally defined minimum standards for obligatory teaching hours (minimum compulsory workload),[78] and (c) the set minimum teacher remuneration levels. The salary offer decision is made by the school principal and input from the pedagogical specialist at the school. Teacher participation in salary negotiations is a positive practice allowing to incentivize new recruits with good pedagogical potential. There is room for negotiation and principals can increase the offered entry salary based on qualification and merit even though within centrally established standards.

While some education systems leave it to qualification providers, employers, and local education authorities to define the competencies expected of teachers, the Bulgarian education system provides guidance in regulations. Teacher 'competencies' listed in Ordinance No. 15 (divided in 'pedagogical', 'social and civic' categories) do not appear to follow from an expertly defined, research-based competency framework and leave much room for subjective interpretation. Providers of teacher training (initial and continuing qualification, in-service training, employers) and the institutions in charge of quality assurance in the education system (specifically Regional Departments of Education and the newly created National Inspectorate of Education) operate without explicit formal guidance on what the necessary teacher competencies are. The task of defining the right competencies and the adequate level of mastery appears to be in need of defining clear elements, targets and specifics. While employers in education can resort to an official checklist of competencies that teachers are expected to master and functions they are expected to perform, the levels of mastery and performance (for example, beginner/intermediate/advanced or unsatisfactory/satisfactory/outstanding) are not specified anywhere.

While attempting to issue guidance on competencies centrally, the Bulgarian education system leaves it entirely up to training providers and educational institutions to assess and appraise teacher competencies. Principals have the authority to hire teachers as long as their selection and hiring procedures are in line with the Labor Code. One way for the education systems to ensure that teachers have the requisite competencies is to appraise at the point of intake or hiring. Thus, some education systems filter applicants for teaching positions by operating personnel selection offices at the national or regional level tasked with creating competency frameworks, assessment tools, and appraisal protocols. Is seems that in the general case principals select teachers first and foremost based on formal qualifications (which do not guarantee competence) and an interview (which allows for a subjective appraisal of their motivation and competences at best). Psychometric assessment tools or requirements for a teacher to

[78] The minimum teaching hours is dependent on the level of education (preschool, primary, or secondary and subject teaching area.

deliver a sample lesson are an exception rather than a regular practice. Ordinance No. 15 requires all teachers to maintain a professional portfolio, but there is no formal stipulation that the portfolio should be considered or appraised during teacher selection. Furthermore, principals are neither formally trained in assessing and appraising teacher competencies nor formally expected to do so ((Principal functions are outlined as "signing labor contracts," the "effective management of personnel," and the "application of innovative management practices" but without further specific guidance (see chapter 4).

At the same time school principals are responsible for establishing incentives for teaching staff, including additional remuneration for achieved results but within thresholds set in the CLA. Set salary levels are influenced by a variety of requirements introduced with Ordinance No. 4 on labor standards and remuneration of labor from 2017 and the CLA from 2018 with both reintegrating the already established teacher remuneration mechanism from before 2017. More precisely, specific teacher-related resource categories have a direct impact on school spending through salary determination.[79] The major ones include:

- Payment for lecture classes above the minimal obligatory workload, provided they have not been included in determining the basic salary. Currently, remuneration for lecture classes is set between BGN 6.30–8.50 depending on the level of qualification of teachers;
- Additional tasks related to the role of class teacher/supervisor (minimum remuneration BGN 42 per month);
- Teaching in a full-day organization of educational process (minimum remuneration BGN 22 per month);
- Teaching a regular subject in a foreign language (minimum remuneration BGN 30 per month);
- Mentoring other teachers (minimum remuneration BGN 60 per month for a duration of up to one year);
- Working with students with special learning needs (minimum remuneration BGN 30 per month);
- Additional monthly payment for acquired professional qualification level between BGN 30–90 (for levels V-I) and for PhD level – between BGN 130–160;
- Tenure – years of pedagogical experience;
- Additional remuneration for achieved results (not less than 4 percent and not more than 4.5 percent of the annual average wages as of 2018).

Teacher policies focus on the regulated forms of continuing professional development by making them a formal prerequisite for promotion and subsidizing teacher participation. Principals are required to spend a portion of the school budget on formal training provided by accredited providers of trainings certified with professional qualification credits and ensure that novice teachers get a more experienced mentor teacher and acquire formal qualification in due time. Teachers are in turn expected and incentivized to dedicate time[80] to CPD and improve their competencies and teaching practice. While both formal (regulated) and informal (unregulated) options for in-service professional development are available to teachers in Bulgaria, as summarized in Table 3.6, the formal is the main condition for career development. Participation in any other form of in-school professional development does not

[79] Listed only the most important categories/factors determining total teacher salaries. The full list is available in Ordinance No. 4/20.04.2017 on labor standards and remuneration of labor.

[80] They often invest their own resources in doing so, especially when it comes to initial and continuous qualification, although they have access to many 'free' options that are covered by either the national budget or European and donor-funded programs.

result in formal credits. Thus the policy appears to give priority to qualification and credited training outside of the school which goes contrary to the idea of apprenticeship: learning on the job from and with peers.

Table 3.6. Options for continuing professional development available to Bulgarian teachers

	In the school or kindergarten	Out of school or the kindergarten
Formal, regulated	• Formal mentorship for novice teachers • Participation in grade-specific or subject-specific teacher communities (*методически обединения*)	• Accredited public providers of professional development credit courses • Accredited private providers of professional development credit courses • Continuous qualification providers
Informal, nonregulated	• Informal mentoring • Self-directed learning	• Exchanges • Conferences • Nonaccredited training courses and programs • Cross-school networks and professional learning communities • Additional formal education

Financial incentives for experienced teachers to mentor teacher trainees or novice teachers are negligible and the format, content, duration and monitoring of results from the mentoring of beginner teachers is unregulated and uncommon practice. [81] Ordinance #15 from 2019 regulates the provision of obligatory introductory qualification for all newly appointed teachers in the form of mentoring support from a mentor teacher appointed by the principal. The mentor supports the beginner teacher in the process of adaptation to teaching and assists them methodologically and administratively in their work. The regulation guarantees the appointment of a mentor within two months of appointment but does not define the obligatory minimum requirements for the format, content, duration and monitoring of the mentoring support impact, nor the professional and career development support for mentor teachers. The responsibility for defining the framework for both these aspects is to be decided at school level.

Table 3.7. Different rationales for participating in teacher professional development

Who drives the decision	Strategic (outcome-oriented) rationale	Nonstrategic (compliance-oriented) rationale
Teacher	• Addressing specific professional development needs identified during formal evaluation (quadrennial) or formal mentoring (for novice teachers)	• Acquiring the credits formally required for promotion • Formal compliance with school policy
Principal	• Implementing the long-term strategy of the school • Addressing the institutional development needs of the schools as defined in the formal self-assessment (biennial) or the inspection report (quadrennial)	• Utilizing the budget for professional development • Formal compliance with local or regional education policy

[81] The additional remuneration of mentor teachers is defined in the individual contract between the university and the base school signed no later than 30 October (art. 38 (2) of Ordinance #15 from 2019) and information is not available if this amount deviates significantly from the established minimum regulated in the CLA.

Who drives the decision	Strategic (outcome-oriented) rationale	Nonstrategic (compliance-oriented) rationale
Regional Education Authority	• Systemwide rollout of new standards or introduction of new technology • Changes in national curriculum • Needs identified in the course of system-level assessments	• Utilizing European funds • Formal compliance with national policy

More focused policy planning is needed to ensure that teachers and principals are strategically prioritizing teacher competencies development. As per Table 3.15, teachers and principals still seem to have insufficient incentives to make strategic decisions concerning participation in professional development. Following the announcement of a formal guidance on teacher evaluation was issued in 2019 and planning for the system to apply teacher appraisal in school year 2020/2021, the process has been stopped with the development of COVID-19 crisis. The NIE is still pilot testing its school appraisal approach and toolkit, and principals still have limited experience with institutional self-assessments, which were formally mandated by legislation.

Since 2015, the monthly insurance income of professionals who have graduated from a pedagogical sciences program have grown at a higher rate than the salaries of other categories of professionals and the average salary. However, as of 2019, it is still below the average insurance income earned in Bulgaria (Table 3.9). Gradual raise of teacher wages aiming to increase attractiveness of the teaching profession and make teacher remuneration more competitive as opposed to another similarly skilled professions is one of the key components of policy efforts related to teachers since 2017. Program 'Bulgaria 2017–2021' envisages doubling of teacher salaries until 2021 as compared to their 2017 level.[82] In line with this policy goal, teacher base salaries increased at a minimum 20 percent in 2019 and 17 percent in 2020. The funds for wages and additional remuneration (incentives) are included in the unified costing standards and are planned within the budget of the school. National Statistical Institute (NSI) data show that the average salaries in education (teachers and other employed staff) follow a strong upward trend since 2016 and are more or less comparable to the levels of other similar sectors (government employees, health care and social care specialists).

Table 3.8. Average base salary in selected sectors (2016–2019) (BGN)

	2016	2017	2018	2019[a]
Professional activities and scientific research	1,359	1,464	1,656	1,797
Administrative and support activities	749	833	924	1,017
Government sector	1,076	1,157	1,262	1,426
Education	899	1,009	1,111	1,299
Health care and social services	981	1,060	1,164	1,297

Source: Calculations based on NSI data (BGN currency).
Note: a. Preliminary.

[82] These involved amendments of the Regulation No. 4 on upgrading the minimum salary levels for the different staff categories in kindergartens and schools – principal, deputy principal, teacher, senior teacher, and head teacher. Under Decree No. 219, schools must reimburse commuting and rent costs within set limits. The responsibility for reimbursing these costs lies with municipalities not MOES. There are no publicly available data on teachers who are commuting and/or renting.

Table 3.9. Professional subfields ranked by growth in monthly insurance income since 2015 (BGN)

	2015	2017	2019	Growth since 2015 (%)
Average monthly insurance income	925	1,075	1,297	40
Pedagogy of…	678	797	1,044	54
Pharmacy	1,025	1,287	1,573	53
Theory and management of education	811	879	1,189	47
Pedagogy	705	803	1,030	46
Health care	740	872	1,044	41
Administration and management	927	1,075	1,289	39
Law	916	1,020	1,214	33
Informatics and computer science	1,393	1,613	1,838	32
Medicine	1,168	1,379	1,519	30
Military science	1,519	1,506	1,647	8

Source: Bulgarian University Ranking System.
Note: Average monthly insurance income of Bulgarian university graduates in the professional field for the last five years, calculated based on data provided by the National Social Security Institute (NSSI) and AdminUni.

The wage and benefit structure calculated on the basis of the BOOST database[83] is in line with the above-described characteristics of employment (in terms of full-time/part-time employment structure) in preschool and school education. About 91.9 percent of remuneration spending in kindergartens and schools consists of wages of full-time employed staff, with benefits and compensations for employees constituting the second most significant spending item. Due to the limited use of the part-time option in education (see Table 3.10.), spending for part-time employment is rather negligible.

Table 3.10. Remuneration structure in kindergartens and schools (%)

Type of remuneration expenditure	2014	2015	2016	2017	2018
Wages and salaries expenses for non-civil servant staff - full time jobs	91.9	91.8	91.0	91.8	91.9
Wage and salary expenses for full-time employees apart from the staff	0.2	0.1	0.1	0.1	0.1
Wage and salary expenses for part-time employees apart from the staff	1.2	0.9	0.7	0.6	0.7
Perquisite benefits and utility expenses paid to the employees as a remuneration	4.0	4.1	3.6	3.3	3.2
Compensations paid to the employees as a remuneration	2.0	2.3	3.9	3.4	3.2
Other remuneration expenses	0.8	0.8	0.8	0.7	0.8

Source: Calculations based on the World Bank BOOST database on practice staff compensation.

[83] World Bank BOOST database contains information for the execution of the Bulgaria's state budget,

Note: Excluding social security and health insurance contributions.

Missed opportunity: The budget categories in the Bulgarian budget classification are too general and not granular enough to provide a level of detail necessary to track in more details the specific spending categories related to remuneration for education specialists and expenditures for continuing professional development training. More specifically, it is not possible to separate total spending on teacher wages from spending on wages of non-pedagogical staff or to calculate the exact amount of money spent on teacher continuing professional development training

The high share of teacher compensation expenses means that any further increase in teacher wage levels will require careful estimation of the overall recurrent cost of provision of basic education services. Schools spend the highest (and fastest-growing) share of their budgets for staff compensation. In 2018 only 17.9 percent of schools aggregated budget was spent on non-salary recurring inputs such as textbooks[84] and learning materials, utilities, maintenance, external services, current repairs, and so on. In contrast, different types of kindergartens, as indicated below, allocate between 22.5 percent and 26.5 percent for non-wage recurrent spending, while the aggregate non-staff expenditures of vocational schools stood at 23.6 percent of their total recurrent spending. Although there are no specific studies exploring inefficiencies in spending on preschool and school education in Bulgaria, most probably the relatively high share of staff wages in total recurrent spending could be attributed to the existing budget constraints (due to still 'tight' public investment in education). It could not be interpreted as a direct sign of inefficiencies without further research.

Table 3.11. Recurrent expenditure structure by type of educational institution (%)

	2005	2008	2012	2015	2018
Full-day kindergartens and combined children's establishments[85]					
Personnel	63.0	63.0	64.9	69.0	74.3
Non-personnel recurrent	37.0	37.0	35.1	31.0	25.7
Special kindergartens					
Personnel	65.4	72.4	68.3	72.4	77.5
Non-personnel recurrent	34.6	27.6	31.7	27.6	22.5
Preschool half-day training for 6-year-old children					
Personnel	58.2	64.9	63.9	65.2	73.5
Non-personnel recurrent	41.8	35.1	36.1	34.8	26.5
Special schools					
Personnel	80.3	76.7	80.9	83.4	80.9

[84] Following an official policy to deliver free textbooks to all children in Grades 1–7 as direct budget expenditures managed at school level.

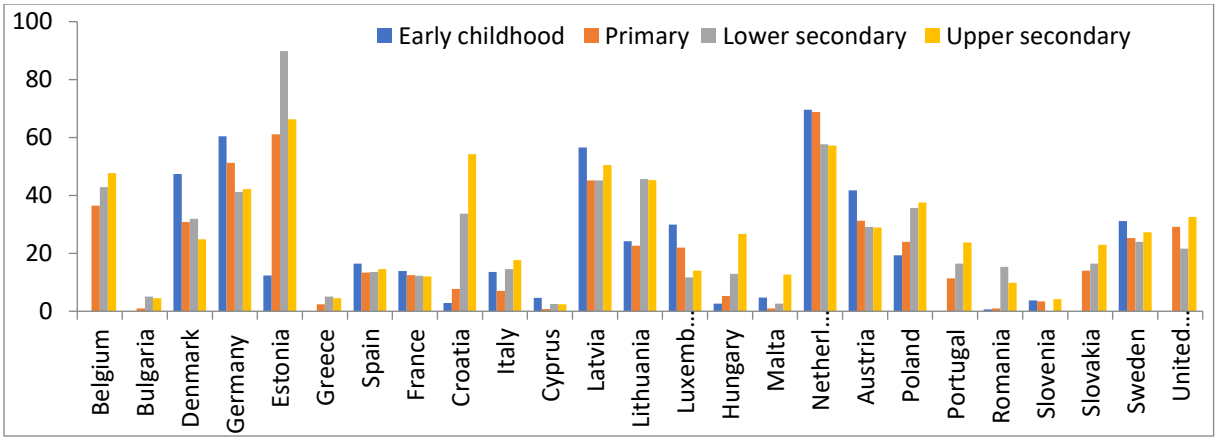
[85] Refers to providers which offer both kindergarten and creche services. Creches provide day care for children ages 0–3 which is not considered as education service, and are under the control and financial rules applied to health provision and policy.

	2005	2008	2012	2015	2018
Non-personnel recurrent	19.7	23.3	19.1	16.6	19.1
Comprehensive schools					
Personnel	72.7	71.5	76.4	80.2	82.1
Non-personnel recurrent	27.3	28.5	23.6	19.8	17.9
Sport schools					
Personnel	54.6	63.3	73.5	73.3	78.8
Non-personnel recurrent	45.4	36.7	26.5	26.7	21.2
Vocational schools and professional courses in secondary comprehensive education schools					
Personnel	79.7	76.0	76.2	75.7	76.4
Non-personnel recurrent	20.3	24.0	23.8	24.3	23.6

Source: Author's calculation base on World Bank BOOST database.

Bulgaria has one of the lowest share of teachers working part-time in Europe (see Figure 3.10.) – only 1 percent of teachers in primary education (grades 1–4), 5.1 percent of teachers in lower secondary education (grades 5–7), and 4.5 percent of teachers in upper secondary education (grades 8–12) work part-time. The share of teachers working full-time in preschools is 100 percent. All but a few of Bulgarian teachers in school education are employed full-time in permanent positions. Part-time teachers are hired with a labor contract for a predefined period with.

Figure 3.10. Share of teachers working part-time by education level



Source: Eurostat, data code [educ_uoe_perd05].

The variety of workforce related policy actions applied are raising the need for strengthened systemic approach addressing HR including close monitoring of the effect of the policies and programs on net teacher demand. Since the adoption of PSSEA, MOES has updated rules and introduced policies and programs that touch on all the drivers of the demand for qualified teachers as described in Table 3.12 presenting a list of policy initiatives that require HR response. There is no evidence and analysis on the policy effects and the specifics of the increased demand. Planning for HR needs it is critical to estimate and address the policy level effects.

Table 3.12. Drivers of teacher demand and relevant abilities of MOES

Driver	Factors within MOES control	Factors outside of MOES control
Student enrollment	Programs to promote enrollment and prevent dropout	Demographic changes, migration
Student special needs	Rules pertaining to screening special needs Incentives and resources for schools to address special needs	Parental decision whether to seek special needs status for students
Minimum and maximum allowable class section	Rules for forming class sections	Municipalities retain discretion over decisions
Minimum and maximum size of schools and kindergartens	Rules pertaining to the licensing and financing of schools and kindergartens	Municipalities retain discretion over decision to open or close schools/kindergartens in response to enrollment or academic achievement
Curricular changes	General education curriculum, electives, profiles, inclusive education standards	Parental/student choice of academic profiles
Teacher workload norms	Total academic or astronomical hours spent teaching. Types of activities that count as teaching (counselling, tutoring, parent conferences, extracurricular activities, electives, teaching another subject, and other nonteaching activities mandated by MOES	—

At the same time, it is not clear whether and how the centrally defined requirements related to HRM are aligned with the real life circumstances of education service provision at regional, local, and school levels defined by the idiosyncrasies of the environment and tasks of individual schools, the local demand and supply of teachers, existing skills gaps, quality and efficiency of teaching, motivation. .All the interrelated components of HRM based on policy should be controlled by the school management: (a) hiring and firing, (b) determining the content and scope of teacher work, (c) determining teacher compensation, (d) teacher performance evaluation, and (e) continuing professional development. These are subject to central government intervention and negotiations defined by the strong role of teacher unions (see Chapter 4, table 4.2.).

Policy approaches on workforce development and management to ensure continuous quality improvement

While raising attractiveness of ITE has been a main focus of policy efforts, there is no overarching teacher workforce plan but rather a collection of incentives and interventions launched at different times and aimed at different stakeholders and overseen by different decision-makers. Over the past few years the Bulgarian government has been guided by an explicit intention to (a) increase enrollment in initial teacher education (ITE) by making it more accessible through incentivizing universities to open more student spots and permitting distance learning, (b) make it more attractive to high-achieving secondary-school graduates (through scholarships), and (c) boost employment of recent graduates by facilitating the match between recent graduates and employers in the education system. No explicit targets are set for national level enrollment or graduation rates or for student demographic elements (gender and ethnicity), type of degree (BA or MA), format of delivery (regular, semiregular,

and distance learning), and qualifications awarded by professional subfield (preschool, primary, secondary, and other) or by curriculum subject. Furthermore, decisions about incentives aimed at increasing enrollment of students do not appear to stem from needs analysis and appear to be taken year-by-year without recourse to ex post evaluations. Despite the divergent performance of ITE programs the incentives aimed at universities and students are the same regardless of whether they are preparing or training to become preschool or school teachers.

Overall, the vast majority of objectives actions, and indicators outlined in policy[86] addressing workforce concern already qualified teachers. There instruments deployed to encourage and boost enrollment in ITE programs are specified below. Relative to its formally declared policy intentions, just one policy measure has been delayed significantly—the launch of an online platform or registry facilitating the match between graduates of ITE programs and other qualified teachers and employers in the education system. There are also measures aimed at promoting the employment and continuous professional development of already qualified teachers and related to raising the prestige of the profession that can also be considered to provide some indirect incentives for enrollment in ITE programs. The following measures and indicators listed in the strategy could be presumed to pertain to policies aimed at shaping enrollment in ITE programs:

- Standardizing and recognizing regular distance learning ITE programs;
- Creating an online registry of qualified teachers (and presumably including students pursuing a qualification) and of training and education institutions;
- Incentivizing high-achieving secondary-school graduates, through scholarships and otherwise, to pursue higher education in the pedagogy sciences professional field;
- Relative share (%) of newly hired teachers;
- Relative share (%) of teachers under 35 years of age over two years after completing higher education relative to the total number of pedagogy sciences graduates and other graduates with formal teacher qualification;
- Relative share (%) of unemployed people under 35 years of age with a formal teaching qualification compared to all university graduates in this age category.

Table 3.13. Current policy levers/instruments aimed at ITE program enrollment and employment of ITE graduates

Target	Description	Decision-maker	Formal regulation	Policy implemented since
Incentives aimed at universities	Approves the number of spots in priority professional fields[87], including ITE programs and STEM-related professional fields. Priority professional fields receive higher per capita subsidy as set in Decree No. 162.	CoM	Decree No. 64 from 2016	2016

[86] The core formal document that outlines government intentions with respect to the teaching workforce is the 2014 Strategy for the Development of Teachers.

[87] Decree No. 64 from 2016: The CoM approves (a) the list of priority professional fields and subfields and (b) the number of students in each professional field by university. The list of priority fields and subfields of Decree No. 64 must be approved anew each year by June 30. There are seven different priority fields as of January 2020, pedagogical sciences and its three subfields included.

Target	Description	Decision-maker	Formal regulation	Policy implemented since
	Set the subsidy[88] per student in priority professional fields	CoM	Decree No. 162 from 2001	2017
Incentives aimed at students	Make ITE more attractive by providing scholarships for students enrolled in priority professional fields	CoM	Decree No. 90 from 2000	2020
	Make ITE more attractive by eliminating fees for students enrolled in priority professional fields	CoM	Decree No. 352 from 2018	Planned for Fall 2020
	Make ITE more attractive by administering an online platform (teachers.mon.bg) bringing together newly qualified teachers and employers	MOES	Ordinance No. 15 from 2019	Planned for January 2021
	Make ITE accessible by maintaining multiple alternative pathways to becoming a teacher	MOES		
	Make ITE accessible by maintaining multiple faculties serving local needs	MOES		
	Make ITE more accessible by offering distance learning programs and irregular learning programs	MOES		
	Make ITE more attractive by maintaining programs that lead to dual professional qualification (preschool and primary)	Universities		

Implementation aspects addressing ITE are binding policy objectives with financial stimulus for both providers and students.

- the allocation coefficient[89] for pedagogical sciences has been increased, but it is still among the lowest compared to other priority professional fields.
- there are also additional ad hoc allocations for capital expenditures tied to the number of students in professional fields, for example, a one-off capex subsidy of BGN 2,000 per student of mathematics, IT, and computer science included in Decree No. 64 in 2016;
- decree No. 90 from 2000: that all university students in STEM and pedagogical sciences professional fields must get a monthly stipend of BGN 100 (or BGN 500 per academic term) if they meet the following criteria: (a) they enrolled in university the same year in which they graduated high school and (b) they must have a Bulgarian Language and Literature matriculation exam score in the top 10 percent of their class nationally or they must have a Bulgarian Language and Literature matriculation exam score in the top 50 percent and a second matriculation exam score (in math, physics, astronomy, or chemistry) in the top 30 percent of their class nationally. There are no data available to show how many students are taking advantage of this provision,

[88] Decree No. 162 from 2001: This decree sets the per capita subsidy that a particular priority professional field gets as a function of a baseline subsidy (determined in another decree related to the national budget) multiplied by a coefficient. The coefficients have been amended in 2014, 2017, and 2020, as described in Table 3.12.
[89] Ibid.

and we have found no official estimates or targets. Black on 2013 when the SABER Teacher Policies study was published, the government recognized only a shortage of foreign-language teachers. It has since moved to recognize a shortage of STEM teachers and taken measures to increase the per capita funding allocation coefficient in priority fields which graduate language and STEM teachers;

- Decree No. 352 from December 2018 includes a list of professional occupations that are facing a shortage over school year 2019/2020. This decree can be used as the legal basis to provide ad hoc transfers to universities, for example, to subsidize or fully eliminate student tuition fees. However, teachers were not included in this list. According to news reports from May 2020, MOES has proposed and the CoM is considering including teachers in the list of occupations facing shortages over school year 2020/2021. We have found no official estimates that show what this would cost or how it is expected to affect enrollment.

Table 3.14. Modification to per capita funding coefficient

	Pre-2014	As of January 2014	As of January 2017	As of January 2020
Pedagogical sciences	1.15	1.05	1.25	1.60
Humanities, languages, and law	1.60	1.60	1.85	2.00
STEM	2.30	2.40	2.80	3.00
Arts	5.00	5.00	5.30	5.30
Healthcare[a]	5.00	5.00	5.00	5.00

Note: a. Includes nursing, midwifery, physical, and occupational therapy.

In addition, emerging efforts to match ITE sources supply and demand are approached though stimulating labor marked. Starting in 2021, graduating pedagogical sciences student professionals (with or without qualification) will be able to register at the online marketplace, create an online profile that includes their qualifications and experience, and indicate what positions they are searching and in what geographic locations. They will be able to search open positions posted by principals. Their profiles will in turn be searchable by principals who are looking to hire. The system will generate automatic matches. Other information that pedagogical sciences students will be able to access at this online marketplace includes the expected number of open positions by subject and municipality (based on the number of teachers by subject and municipality eligible for retirement over this period).

The emerging outcomes of the listed policy actions are not packed with basic data evidence to inform developments. There are not evidences that MOES is using data on the demographic composition of ITE students, especially of the new inflows following the policy measures. MOES is not collecting or using data on enrollment, graduation, or employment of students who go through the other pathways to become subject teachers who have no incentives tied to them. Overall the outcomes and lessons steaming from current policy developments are:

- ITE enrollment improved in spite of the declining student population with higher number of students are enrolled in the pedagogy sciences professional field;
- Positive developments are associated with boosting employment;
- The system was not successful in attracting high-achieving graduates.

Outcomes by profesional fields: pedagogy versus pedagogy of .[subject]..

Pedagogy

The number of students enrolled in 'pedagogy' programs (BA and MA either preschool or primary school teachers) has grown by one-third between school year 2013/2014 and school year 2019/2020.

Students tend to have lower-than-average academic scores as measured by the average GPA of their high-school diploma (see data above).

Students tend to have higher graduation rates, a proxy for higher motivation.

Studends tend to find employment as teaching professionals at a higher rate than average (though this does not necessarily tell what percentage find employment in formal or informal preschool education, in public or private institutions) **but**.

A higher share of them tend to be unemployed compared to the average.

'pedagogy of'…

Decline in the number of students enrolled in 'pedagogy of'… programs (BA and MA) to become subject teachers by a third between school year 2013/2014 and school year 2019/2020.

Students tend to have lower-than-average graduation rates, a proxy for lower motivation.

They are less likely, than graduates of pedagogy ITE programs, **to work as teaching professionals** and only about half of them even work in jobs that require a university degree.

Students tend to have lower-than-average academic scores as measured by the average GPA of their high-school diploma

The current approach does not focus on the socioemotional skills of the workforce in the two core processes - planning and management. Teacher selection is one of the key elements of teacher planning and monitoring tools a government or public administration can use to improve the teaching profession in an education system. The importance of teacher personality and behavioral skills has gained increasing attention. Evidence shows the importance of a holistic set of measures identifying teachers' both cognitive and noncognitive skills to predict student learning.

Sweden: Evidence shows the importance of social and aptitude abilities of teachers for low-skilled students, whereas cognitive skills of teachers are mostly relevant for high-skilled students (Grönqvist and Vlachos, 2008). This approach has already been put in practice by the most advanced education systems.

Finland: Recent evidence from Finland has shown that teacher soft skills are not necessarily related to academic ability and such types of skills (which include motivation, commitment, interpersonal, and communication skills as well as introspective ability) enrich the capacity of the education systems to select their most suitable candidates (Izadi, 2019). Policy makers are confronted with key decisions that face trade-offs such as time of selection (before initial training, before induction period, after induction), the strictness of the selection (identifying only the candidates needed to meet demand versus identifying more candidates than needed for a probatory induction period), the cost of the methodology of the selection process (computer-based versus human labor-intensive process), and its validity in terms of predicting future job outcomes.

Finland, Estonia, the Netherlands, Austria, or the Republic of Korea: Many advanced systems rely on personality, aptitude, or behavioral tests[90] to track teacher behavioral skills as part of their selection process, but the vast majority rely on panel interviews. Other alternatives have been developed to identify teacher behavioral skills: through computer-based large-scale tests, processes are cheap and easily implemented once appropriate design and technological equipment are in place. This approach is currently being explored in specific jobs, and promising results indicate potential to roll out, in large scale, recruitment processes of teachers run by public authorities responsible for education systems.

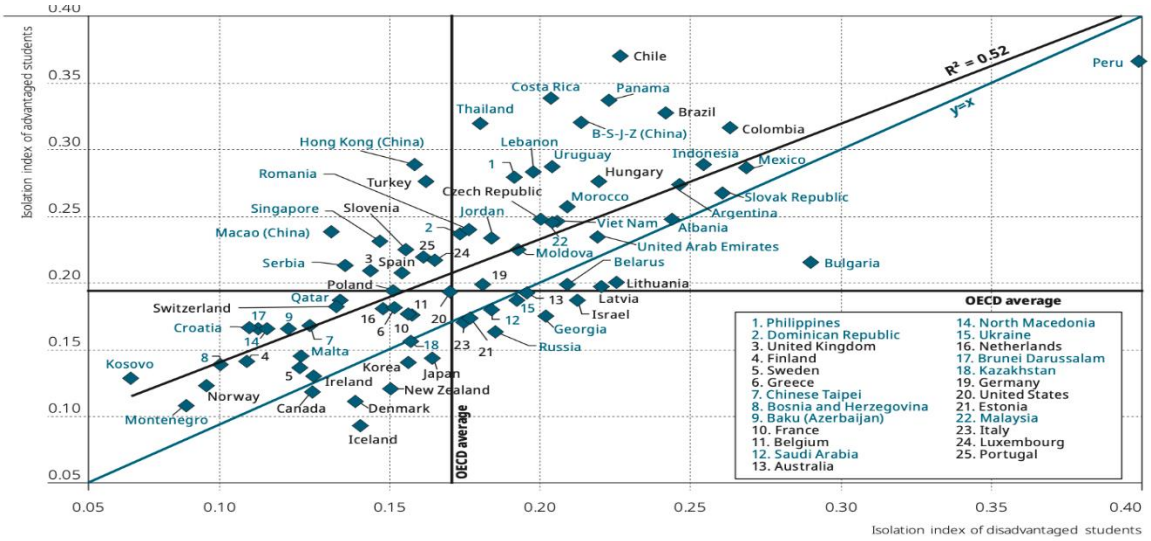
On critical workforce needs Bulgaria's experience demonstrated that providing incentives (monetary or otherwise) to teachers for teaching in hard-to-staff schools is a difficult task where the design of the incentive programs matters. Only recently Bulgaria piloted activities addressing demand in had to staff institutions and overall the lesson is that such programs are not just a function of financial stimulus. Following the introduced National program to attract teachers in "non-attractive" locations or institutions, that was not successful to collect enough candidates, MOEs will need to reconsider the approach and to develop a very specific package that address the need to support specific areas and institutions.

International experience: Pricing the teachers hired in a locality with shortage needs to be an issue of deep analysis. Incentives for teachers to teach in critical shortage areas allow the 'price' of teachers to vary – in this case, according to their relative scarcity in specific subjects where there are frequent teacher shortages. Given that individuals who major in high-demand fields (for example, math and science) can access other well-remunerated professional opportunities and thus face a higher opportunity cost by going into teaching, offering higher salaries to teachers specialized in critical shortage subjects can potentially make teaching a relatively more attractive profession for these skilled individuals. It is not clear how the education system is addressing critical shortages with full evidence and whether teachers are provided the appropriate incentives to teach these subjects.

[90] Self-reported personality tests are based on classical socio-emotional tests. An example is the Big Five conceptual model (Goldberg 1990) which measures a combination of openness, conscientiousness, extraversion, agreeableness, and neuroticism. Such tests have been adapted to teacher recruitment which link skills or traits to behaviors in the context of the classroom. The tests are immediately scored, and a report is usually accompanied with a set of reflections and potential post-interview questions. However, these tests suffer from certain biases, which condition people's willingness to reveal their personal details: this phenomenon benefits certain candidates based on gender, ethnicity, or socioeconomic status and hence breaks the fairness perspective. Moreover, effect sizes are found to be small relative to the expectations put into the test (Kell 2019), but some characteristics (that is, conscientiousness) could be important predictors of the student's future development in those characteristics (Cheng and Zamarro 2018). Such a model has been tested for teacher recruitment processes in certain states and districts of the United States. Other tests aim at measuring social interaction skills (Teacher Capability Assessment Tool [TCAT]) related to candidates' communication style, ability to act fairly, cultural sensitivity, and self-awareness.
Situational judgment tests (SJTs) assess candidates' values, behavioral skills, and procedural knowledge. A typical STJ consists of a brief, contextualized scenario that presents a challenging and ambiguous situation that teachers may face and potential responses to these and their degree of appropriateness. There is not one right way to respond, in the sense that SJTs do not aim at finding a single specific type of teacher but rather a mix of behavioral skills. In some ways, STJs are similar to structured interview questions used in many teacher selection settings (Klassen et al. 2020). No teaching knowledge or experience is needed, and such tests cannot be prepared. These tests have become increasingly popular because of their high validity (more predictive of interview performance than current screening methods and long-term validity to be high), cost-effectiveness, and positive applicant reactions (Al Hasmi and Klassen 2019; Klassen and Rushby 2019), all benefits having also been identified when adapted for future teachers. Research shows that STJs account for more variance of final scores relative to personality tests or ability tests (Whelpley 2014). A major European-funded project, Teacher Selection Project, is leading the research and practice of such tools with various international and NGO initiatives, including Teach for Bulgaria, which have started piloting these models.

In the Czech Republic there is uneven distribution of teachers that was exacerbated by an early tracking model which, by forcing students to take early binary paths, fosters high school socioeconomic segregation as early as age 14.[91] Just as in Bulgaria, this generates a large proportion of schools with a high concentration of advantaged students, as well as its counterpart with disadvantaged students being segregated in a large number of schools. Teaching in such deprived schools becomes much less attractive for teachers.[92] Figure 3.5 is about the isolation index in a sample of countries.

Figure 3.11. Isolation index of advantaged and disadvantaged students



In France the teaching workforce incentive program 'Priority Education Zones/Networks' ('*Zones/Reseaux d'Education Prioritaire'*, ZEP/REP) was introduced in the 1980s, targeting teachers in disadvantaged areas. The REP program in France has historically been characterized by trying to bring the best teachers to the territories with the greatest educational needs. To do this, salary policies have tried to incentivize this through bonuses or destination supplements. This measure experienced a progressive increase in supplements between 2018 and 2020 for teachers: a new multidimensional index has been created to identify disadvantaged schools. The ZEP/REP program in France shows mixed results in terms of student learning progress. Several studies have tried to quantify the real impact of the program on the students of the Priority Education Zones/Networks. However, these evaluations (using quasi-experimental methodologies) find mixed results regarding their impact, with the work of Piketty et al. (2006) finding positive effects (although modest), while Bénabou et al. (2009) find no impact (positive or negative) from the program. This divergence of results has generated different interpretations. Piketty et al. (2006) argue that the lack of resources is the reason why the results found are not relevant in terms of impact size.

Australia used a multicriteria model to attract teachers to schools in rural and remote areas by collaborating with universities outside remote areas, providing opportunities in remote schools to participate in road shows and other events, offering financial and other incentives to teach in remote schools such as study leave incentives, online courses for CPD, and scholarships.[93] Also, in preparing teachers to teach in disadvantaged schools an academic learning model was adapted that uses a modified curriculum, mentorship, and professional experience in strategic settings to prepare high-achieving, final-year preservice teachers for employment and careers in disadvantaged

[91] OECD 2016.
[92] OECD 2019a.
[93] OECD 2019b.

schools.[94] It aims "…to support the best and brightest graduate teachers to teach in the schools that need them most". Strategic partnerships with the profession help provide graduates with a pathway into employment. Selection into the program is primarily based on the students' grade point average over the first two years of their Bachelor of Education degree.

Addressing teacher diversity in the United States, NYC Men Teach[95] program, for example, focused on diversifying the teaching workforce by recruiting and supporting teachers of color. The program introduces multiple pathways toward teacher certification and further support through mentor groups, professional development programs, and a hub school network. Teacher Incentive Fund (TIF) also provides funding for projects that develop and implement performance-based teacher and principal compensation systems in high-need schools. Performance-based compensation systems must consider gains in student academic achievement as well as classroom evaluations conducted multiple times during each school year among other factors and provide educators with incentives to take on additional responsibilities and leadership roles. The purpose of the TIF program is to increase students' access to effective educators in high-need schools and to expand the array of promising approaches that can help these educators and other personnel succeed.

Workforce management context is limited by low performance-focused system and education leaders tend to operate with priority to administrative compliance. The presented in Chapter 2 challenge to introduce well-functioning mechanisms of school accountability tied to teaching and learning outcomes is essentially linked to teacher guidance, support and institution and workforce development. The PSSEA (2016) introduced "school community councils" to supplement existing school boards but in practice neither have the formal or informal authority to extract accountability from principals. The Act also created an NIE under the CoM charged with ensuring the quality of teaching and learning in schools and kindergartens. As of today, the inspection mechanism is still in pilot phase, and MOES is postponing proposing policy responses package to those institutions that will be assessed as low performers. MOES has initiated and then stopped work on building a learning-oriented knowledge base on performance based on added value and has introduced changes in national assessments. Chapter 4 focuses on policies addressing principals selected based on teaching experience and knowledge of statutes and regulation, do not receive onboarding or ongoing training related to HRM and instructional leadership. Overall, Bulgarian schools enjoy significant autonomy in personnel management devolved to the school director, which is observed only in a few countries (for example, Poland, Finland, and England). However, devolution in Bulgaria materializes only in terms of teaching and nonteaching staff, while processes for selection and appointment of school directors remain highly centralized.

Table 3.15. Human resources elements, responsibilities, and policy measures

HRM element	Responsibility for regulation and implementation	Recent changes
Workload and division of labor	School roles and hierarchy regulated by MOES. Teacher workload regulated by MOES and set in the CLA. Principals can decide teacher-student ratio in their school.	Ordinance No. 4 from 2017 sets teaching workload
Organizational leadership and culture	Culture and organizational leadership issues are left entirely to the principals.	No recent changes

The effectiveness of the management of teachers in the Bulgarian education system hinges on the actions of principals. However, principals have neither the incentives nor the support to be effective human

[94] OECD 2019c.
[95] OECD 2019d.

resource managers or instructional leaders. These skills in this direction have not been evaluated. The government may further improve the human resource aspects of the system by strengthening the framework for training and qualification of school directors, with focus on instructional leadership skills, the work with parents and performance management, and the use of assessments for short- and long-term plans for school improvement (see Chapter 4). In this respect, exploring the experience of England in head teacher accreditation may be helpful for strengthening the school leadership programs in Bulgaria. Several studies show that SBM when it works well leads to reduction in school leaving and failure rates. Those programs that provide greater levels of autonomy and strong accountability show significant effects on student learning over time, and weak autonomy/accountability produces small effects but promotes participation.

Quality assurance in relation to the workforce planning and management

Transparency and accountability, accreditation, internal quality assurance

In initial training programs, universities are subject to a general QA system[96], but it does not give special attention to education programs as in other countries. As in Bulgaria, teaching profession is not included in the list of regulated professions the procedures for program accreditation of professional fields and scientific majors other than those included in the regulated professions list apply[97]. The stages of this procedure include self-evaluation and submission of a request for accreditation, a request to start a procedure, site visit to the institution under evaluation, group report, and decision. Every higher education institution in Bulgaria should have its own internal system for evaluating quality of teaching and student performance. According to the Higher Education Act (Art. 6, para. 4), "the higher education establishment shall ensure the quality of education and scientific research through internal system of assessment and maintenance of the quality of education and of the academic staff, including also student's opinion polls at least once in an academic year." Each institution's internal system is then evaluated by the NEAA. In recent years, certain steps were undertaken to improve quality of higher education programs. The obligatory accreditation of university programs is now set once every four years and it includes a component around monitoring performance and proof of quality. Currently, it is carried out by internal committees for quality control within the university which consider student evaluations, collect testimonials from employers of the graduates, and organize monitoring by peers and superiors of the instructors under review.

In addition to overall challenges reported by the NEAA, there is a clear need to introduce specific QA mechanisms for ITE programs to raise their reputation, quality of the studies, and successful employment of graduates at schools. The NEAA reports that (a) the legal framework is still not perfect and the NEAA has no legislative initiative for changing external normative organization; (b) there is a lack of legal mechanisms of sanctioning in case of

[96] The National Evaluation and Accreditation Agency (NEAA)[30] was established in 1996 as a specialized state authority for evaluation, accreditation, and quality control in the system of higher education.[31] The NEAA operates in alignment with the national system for QA with the respective European standards and guidelines. It provides guidelines for the self-assessment stage of universities' accreditation.[32] The NEAA has also designed work rules for students and doctoral students and[33] members of the expert groups for evaluation and accreditation procedures and rules for the participation of foreign experts[34] and members of expert groups for evaluation and accreditation procedures. Program accreditation, according to the Higher Education Act is based on "on the assessment of the quality of the instruction offered in a specific professional area at a primary unit and/or affiliate of the higher school, of a specialty related to regulated professions, or a doctoral program" (Art. 78). Program accreditation evaluates (a) the structure, organization, and content of curricula and programs; (b) the profile and qualifications of the faculty; (c) the available facilities for education; (d) teaching and grading methods; (e) the quality control of education; and (f) research and creative activities of the faculty and the participation of students and doctoral candidates in them.[35]

[97] The criteria for program accreditation of a professional field is developed in accordance with ESG- Part 1 (1–10) and pursuant to Art. 78, para. 3 of HEA.[38]

untimely applying for accreditation of higher education institutions; (c) it is usually hard to get experts on board, because of insufficient financing of the expert work in accreditation procedures and lack of interest in the profession among the young specialists and staff getting older; (d) there is insufficient interest of stakeholders, including employers, in the work of the NEAA; and (e) employers do not participate actively in meetings of the NEAA Standing Committee.[4] In addition there is need for:

- Specific entrance exam/interview for enrollment to ITE programs
- Specific exam for ITE programs graduates
- Specific accreditation procedures for ITE programs.

Bulgarian universities underprioritize school-based practices to excel ITE. International best practice is that ITE programs at universities organize close partnerships with feeding schools (or 'base schools'). To be successful, these partnerships should work in two directions: schools should provide opportunities for students to have practice in teaching and possibly allocate mentor teachers from the most experienced ones and universities should equip schools with research and methodological support, involve in projects, including international, provide training to teachers and principals, and coordinate with schools in design of their training programs. Students require a significant time and capacity investment from base teachers. Universities claim that the government subsidy allocated per teacher does not provide sufficient incentive. Universities rely more on individual relationships built over the years to convince teachers in base schools to accept mentoring student teachers. They provide additional qualification credits free of cost and offer base teachers the opportunity to use students as individual assistants and extra help in working with school children, who need extra time and attention. On the other hand, lack of interest from the schools' side also demonstrates:

- a lack of support provided to them from universities. It seems that schools are not involved in university work at all. They are not consulted on program design, and their participation in program accreditation is rather formal.
- universities do not involve schools in any projects and provide very little research and methodological support.
- base schools are usually located near universities and tend to be among the better-performing urban schools. The socioeconomic background of children from those schools limits students' ability to work with children in rural areas or other challenging environments.
- high-performing base schools are highly competitive and usually their most experienced teachers work with the grades that are prepared for the standardized tests (grades 4, 7, and 12). They might be reluctant to allow trainee teachers to teach those grades for fear that students might be 'shortchanged' if a teacher in training is preparing them for such important exams.

Recommendation: Incentivizing a larger number of potential base schools and base teachers to take on the role is a possible key policy change toward improving practical preparation of future teachers. It would allow for a larger selection, better and more diverse examples, and more opportunities for future teachers to practice while being supported.

Workforce: In terms of CPD and other forms of talent/skills development, MOES is investing a significant public budget, but the approach is still fragmented and does not allow to observe how this investment is contributing and addressing needs identified in the system to guarantee workforce standards. In addition to public investments, the education professionals are contributing with private funds for CPD when targeting career development, but the cumulative effect of the CPD is unknown. The education system is using a variety of programs (EU funded,

national budget through delegated budgets to education, and NPDEs), but both planning and monitoring are not systematic. Overall, the thematic focus and distribution of CPD programs are not systematically analyzed. It is unclear what priority competences/standards MOES is fostering through CPD and how this is related to policy needs and priorities. Impact evaluation of those programs is rare. Data collection could be optimized to support policy decisions.

The professional standards are the primary target of appraisal criteria for teachers or principals while learning outcomes are not directly addressed. The current approach chosen is to appraise performance of processes associated with key requirements (competences) and formal CPD participation (verification that the minimum required CPD is covered). The approach does not include school performance outcomes or student development evidence. Bulgaria is going to introduce for the first time an appraisal process for its education workforce in the 2020/2021 school year (Ordinance No. 15 (2019).[98] The recent policy initiatives to foster competence-based learning to improve learning outcomes are not reflected into the performance evaluation model for education workforce where the appraisal approach is to register processes but not outcomes. The introduced appraisal cards are proposing a balanced approach for review of performance guided by the competence list introduced for teachers and principals where weights (points) are provided for different competences groups. CPD status and developments are registered with the cards, but there are no provisions to link outcomes of the qualification effort to appraisal.

Regulations for monitoring professional qualifications and continuing professional development are misaligned and are weak to evidence results. Under the complicated approach it is difficult to ensure direct and measurable contribution to policy goals. The PSSEA regulated the provision of trainings for teachers with PQCs by four categories of training organizations: (a) specialized service units, (b) universities, (c) scientific organization, and (d) training organizations with programs registered in the Information Register of the Approved Qualification Programmes (IRAQP) specially created and maintained by MOES. Only the training organizations are subject to a registration procedure and as part of it are obligated to plan and present their training programs and trainers' profile for approval. There are no requirements for other three types of training providers to present for verification their trainers' profiles and programs to MOES or any external organization as they are not obliged to be registered in the IRAQP. More specifically, there are no training program registration requirements for universities, scientific organizations, or specialized service units. While this can be justified for the specialized service unit (the National Center for Raising the Qualification of Pedagogics Specialists functions under the direct supervision of MOES), it could not be explained for universities given that most of them have no accredited pedagogical programs.

Table 3.16. Comparison of requirements for different types of providers of CPD with PQCs

Requirements	Specialized service units	Higher education institutions (universities)	Scientific organizations	Training organizations with programs published in MOES' IRAQP
Type of organization and number of entities	Specialized service unit in the field of education 1 unit National Centre for Raising the Qualification of Pedagogical	University and/or university department even without program accreditation in the field of pedagogy 51 universities in Bulgaria	Scientific organization in the field of the education None of the registered scientific organizations	For-profit companies or NGOs registered in the IRAQP 216 organizations

[98] Ordinance No. 15 of 22.07.2019 on the Status and Professional Development of Teachers, Directors and Headmasters, and Other Educationalists.

Requirements	Specialized service units	Higher education institutions (universities)	Scientific organizations	Training organizations with programs published in MOES' IRAQP
	Specialists which is a unit of MOES		provide trainings with PQCs so far.	
IRAQP registration	No registration in the IRAQP	No registration in the IRAQP	No registration in the IRAQP	Registration in the IRAQP is obligatory
Applying quality management system (QMS)	ISO 9001:2015	Some universities apply ISO 9001:2015 Others apply their own QMS	Not relevant	ISO 9001:2015
Applying requirements on the profile of trainers	Yes, no external verification	Yes, no external verification	Yes, no external verification	Yes, MOES verifies during registration procedure in the IRAQP
Applying requirements on the content of trainings	Yes, no external verification	Yes, no external verification	Yes, no external verification	Yes, MOES verifies during the registration procedure in the IRAQP
Applying requirements on the duration of trainings	Yes, no external verification	Yes, no external verification	Yes, no external verification	Yes, MOES verifies during the registration procedure in the IRAQP

Continuing education and professional development and its impact on workforce management policies

Bulgaria needs to introduce a CPD policy approach focused on learning outcomes that is developed as a coherent program of interrelated measures addressing learning goals and serves as an alternative to the currently rather fragmented and limited set of actions.

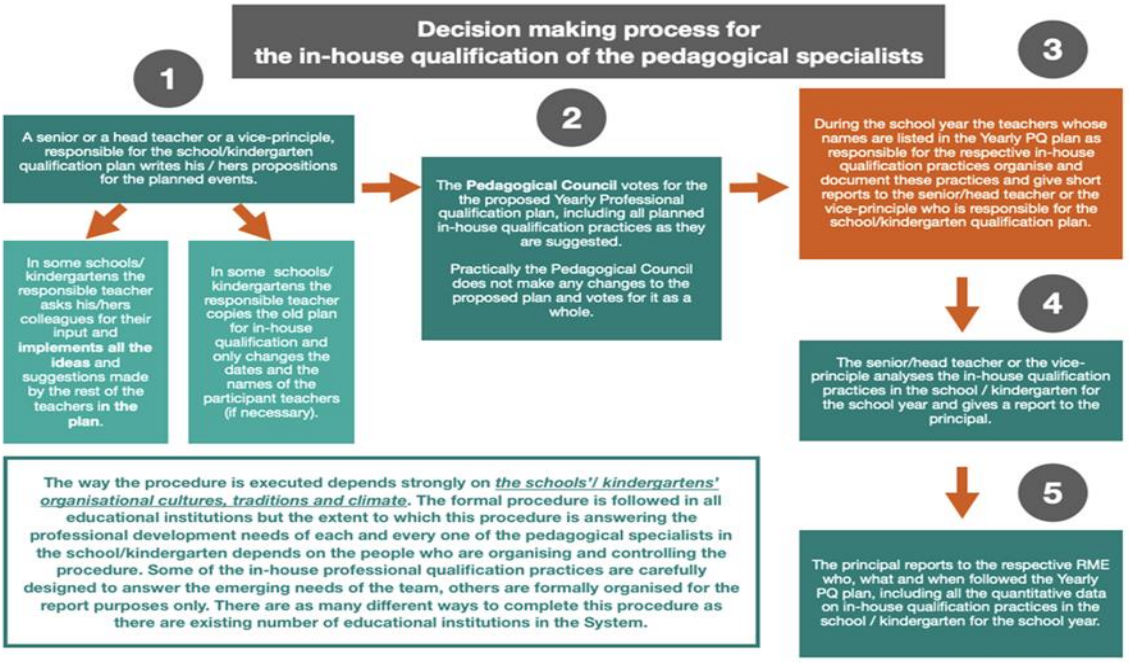
While Bulgaria invested significant efforts and resources in continuing professional development of teachers as one of its core teacher policy focusses, the policy measures and instruments are still fragmented, not well coordinated (including with policy or curriculum targets), not clearly linked to measurable change in teaching and learning outcomes and not efficiently meeting context and classroom level needs. The PSSEA did not introduce changes in the existing three CPD formats (continuing professional qualification, training and in-house professional development, see figure 9), but the legislative reforms allowed for more structured and clear tracing of administrative and management processes and policy inputs. The main achievements of CPD policy measures relate mainly to (a) clearly regulating obligatory minimum CPD requirements linked to teacher attestation; (b) ensuring funding for CPD activities; (c) regulating the provision of CPD through professional qualification credits and degrees,

and (d) bringing forward the role and weight of continuing professional development and qualification over length of service in teacher career development.

Most educational institutions do not develop in-house CPD procedures and annual plans based on data and teacher needs assessment but rather stick to the minimum requirements outlined by regulations and the exemplary reporting forms provided by RDE. There is a lack of appropriate incentives for educational institutions to develop their unique in-house CPD strategies and plans reflecting context specifics and needs. In line with the approach of decentralizing operational and management processes in the education system introduced by the PSSEA, the planning and provision of CPD for teachers is a key responsibility and management instrument of school leadership. The obligatory CPD requirements set a threshold ensuring all teachers receive training acquiring the minimum needed professional qualification credits to meet the attestation demands but are not accompanied by clear requirements for measuring the impact of annually received CPD training and support on developing the competences outlined in the professional standards for teachers. In addition, student learning outcomes are not included in the professional standards which are the primary target of appraisal criteria.

The lack of clear correlation between CPD planning and results, learning outcomes and teacher attestation is manifested in a disconnect between the attestation process and the development of annual school professional qualification plans. While attestation is personal the annual professional qualification plans are for the whole team. Teacher attestation regulated at four-year periods is planned as formative assessment leading to personalized recommendations for professional development. The annual school professional qualification plans are the tool for providing gradual steady improvements through tailored CPD. But it is not informed or accompanied by individual CPD plans based on informal or formal self-evaluation and pedagogical practice assessment through classroom observations, reflection in learning communities or other similar tools and approaches. A review of publicly accessible school annual professional qualification plans identifies a ubiquitous trend to justify school CPD objectives by quoting the regulatory framework or instructions given by RDEs rather than evidence derived from teacher needs assessment. Without explicit requirements linking CPD activities outcomes to teaching and learning outcomes and being part of principals regular reporting responsibilities to RDEs, in-house CPD plans are too often developed and organized to serve the needs of regional reporting oriented towards processes and inputs (for example, number of teachers trained/qualified, academic hours, and training topics).

Figure 3.12. Legal framework and process flow



Supporting school leadership to utilize in a meaningful way their autonomy in in-house CPD planning and organization is crucial for improving the effectiveness of teacher professional development and ultimately increasing student learning. The annual school professional qualification plans should reflect and be supplemented by individual formative assessments of teacher CPD needs which will guide tailoring formal and informal support and training to areas of poor performance identified by the evaluations.

Educational institutions report and have their expenses related to in-house CPD approved against completion of planned activities without *measuring impact on teaching and learning outcomes and changes in classroom and school results.* Steady funding for CPD is ensured through the delegated budgets with the allocation of a minimum percentage of funds for annual gross salaries of pedagogical specialists set annually in the collective labor agreement (currently the threshold is 1,2 percent) with an additional requirement from 2020 to dedicate half of the funds for in-house or inter-institutional peer learning and training activities. The funds are used by educational institutions for CPD activities in their annual professional qualification plans including training awarding PQCs and in-house professional development. The policy measure should ensure that all teachers receive the needed professional development support to meet attestation requirements but the requirements for accounting and results reporting do not prescribe any accountability on behalf of the school, principal or teaching staff for the impact of the funded CPD activities on classroom practices, teaching and learning outcomes.

System level CPD investments are still not well coordinated with performance. There are not process oriented indicators (for example, number of teachers trained/qualified, academic hours, and training topics). CPD is one of the core focuses of teacher policies and as such additional funding is channeled to support initiatives provided on system level through National Program Qualification and project Qualification for Professional Development of Pedagogical Specialists co-funded by ESF. oriented towards processes and inputs (for example, number of teachers trained/qualified, academic hours, and training topics). Given the profile of the teaching workforce and the goal set by the PSSEA to improve education outcomes, streaming funding and resources to CPD is a step in the right direction but need to be developed to become specific, measurable, goal-oriented, and classroom-level effective instruments linking outcomes of the qualification efforts to improvement in student results.

MOES has undertaken significant changes in governance and standardizing CPD processes including provision of training awarding professional qualification degrees (PQDs) and credits (PQCs) but the regulations for monitoring professional qualifications and CPD are misaligned to ensure results. The number of eligible higher education institutions (still the sole provider of PQDs or further teacher education) and in-service training providers (universities, specialized units, scientific organizations and training organizations with programs registered in the Information Register of the Approved Qualification Programs (IRAQP) specially created and maintained by MOES) has been expanded but the regulations do not address a key challenge in ensuring the content and teaching methods employed by PQD and PQC training programs impact pedagogical practices. The policy initiatives targeting the regulation of teacher CPD provision count on referring to the ultimate objective of developing the key competences outlined in legislation and the teacher professional standards without ensuring any instruments to monitor or outline key national priority thematic areas. Thus the institutions responsible for providing CPD for teachers (school leaders, continuing qualification providers, in-service training providers) and the institutions in charge of quality assurance in the education system (specifically Regional Education Authorities and the newly created National Inspectorate) operated without an explicit and formal guidance on what the necessary competencies are and how they are manifested in the classroom.

Intended to promote talent and high pedagogical performance, including among younger teachers with less teaching experience, bringing forward the role and weight of professional qualification and CPD over length of service in teacher career advancement is limited by other incentives in teacher remuneration and career development. The positions of senior and head teacher are not relieved of regular teacher work to compensate for the additional responsibilities and remuneration incentives are overridden by the ubiquitous automatic increase in salaries based on length of service without accruing additional tasks. The training for acquiring the high PQD levels needed for such career advancement are still predominantly financed by teachers themselves. These limit the effectiveness of this incentive from the point of view of teachers. From the point of view of principals this career incentive provision is also limited in attractiveness as acquiring higher PQD level automatically results in promotion and salary increase that needs to budget for without linking it to teacher performance evaluation and guarantee of the quality of the attended PQD program. The tangible achievement of CPD-related policy initiatives focused on regulating the provision of existing traditional CPD formats without correlating them with teaching and learning outcomes is that the general profile of the teaching workforce is characterized with highly educated and qualified teachers. 65 percent in the reaching workforce held a master's degree and 25 percent a bachelor's degree. More than 96 percent of teachers in the system of preschool and school education system have acquired their degrees through certified higher education ITE programs.[99] This puts Bulgaria at a forefront position on this indicator in the EU. Similarly, in terms of continuing professional development 54 percent of teachers have acquired PQDs and the rise on this indicator is 15 percent over the past 4 years. In addition, there is a steadily growing investment of resources in professional qualification courses measured through a system of qualification credits attended by pedagogical specialists after the PSSEA came into force. Despite the outstanding results in increasing the continuing professional qualification of the current teaching workforce student results measured in international assessments in which Bulgaria takes part in remain persistently low. This indicates that the objectives and focus of CPD policies and measures are not sufficient to achieve the overarching goal introduced by the PSSEA for organizing the CPD system with focus on improved teaching and learning outcomes.[100]

[99] Education in the Republic of Bulgaria 2019, NSI https://www.nsi.bg/en/content/17477/%D0%BF%D1%83%D0%B1%D0%BB%D0%B8%D0%BA%D0%B0%D1%86%D0%B8%D1%8F/education-republic-bulgaria-2019

[100] PSSEA art. 224, para. 2

Human resources information and research to inform workforce management and planning

Ensuring workforce based on information system and research and matching teachers and their career needs/competencies with schools

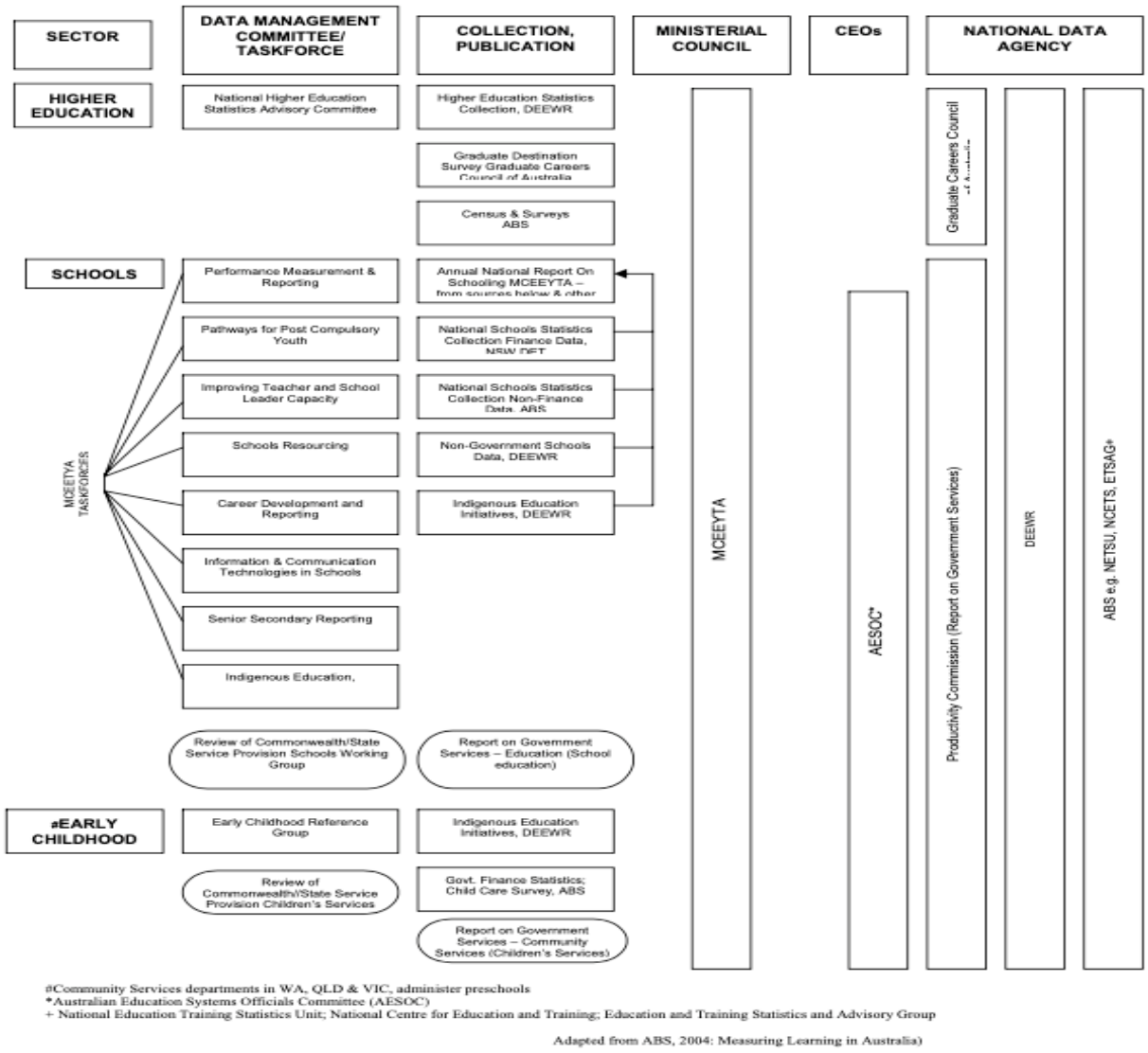
Lack of a system to utilize HR data for decision-making is limiting the planning process. It is not easy for the education system to pull together needed detailed data to conduct analysis of human resource dynamics to identify, for example, teachers entering or moving to another profession, the outflow of teachers related to retirement or leaving public service. It is equally challenging to to analyse dynamics by subject level, category of teachers or education stage

An effective data system is crucial to operationalize the HR monitoring supply and demand dynamics. Workforce decisions appear to be unrelated in a long-term plan. The current approach to planning and management could benefit from cooperation among the key stakeholder groups, standardizing and automating of data flows, and institutionalizing data sharing. In comparison to other countries, Bulgaria is lagging behind on implementing planning and predicting the teaching workforce.

In the United States the Schools and Staffing Survey (SASS) is a long-standing and widely used data collection on teacher workforce issues in the country. It is managed by the National Center for Educational Statistics which is funded through the federal US Department of Education. The US Census Bureau conducts the data collections. The SASS has been specifically designed to collect extensive data on public and private primary and secondary schools.

In Australia there is very relevant experience in data set building to secure supply and demand monitoring. There are clear responsibilities for planning and data collection at national government, state, territory, and school levels. The system includes school and higher education and deals with various emerging topics in education policy that will shape education systems for the years to come.

Figure 3.13. Australia's model for HRM

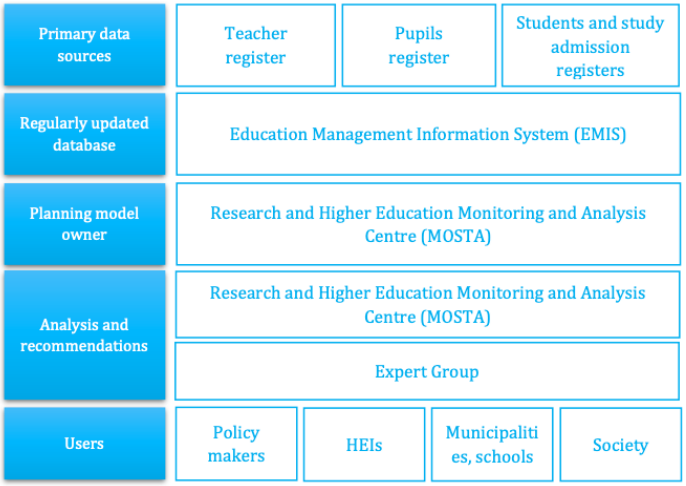


Note: ABS = ; CEO = Chief executive officer; DEEWR = ; ETSAG = ; MCEEYTA = ; NETSU = ; NCETS = .

In England the system produces various reports monitoring workforce status, dynamics, behavior, and salary incentives. In England, teacher workforce data utilize indicators in areas such as the overall workforce size and STRs; vacancy rates for classroom teachers, assistant principals, deputy, and head teachers; flows of teachers including those entering and leaving teaching; qualifications (but not at the level of subjects); and curriculum. Traditionally, data collections regarding teachers have involved a variety of different aspects and agencies: adult sections of the Schools Census, a Personnel Form, Secondary School Curriculum and Staffing Survey, Pay Survey from the Office of Manpower Economics, and a Resignation and Recruitment Survey from the National Employers Organisation for School Teachers. A new School Census is being developed to provide a more streamlined approach to teacher workforce data collection. Scotland collects data from all primary, secondary, and special schools which are publicly funded, with separate censuses in regard to pupils and teachers. This information is used for policy making in regard to the teacher workforce and ensuring an adequate supply of newly trained teachers and for broader policy monitoring. A separate census of independent schools is also undertaken.

In Lithuania an automated system links different groups to collect, analyze, and utilize the information for planning (see Figure 3.115).

Figure 3.14. Data-driven human resources planning in Lithuania



There are a number of initiatives and processes addressing information resources and education needs. Performance information and indicators are in the focus of School Added Value Measurement that shows outcomes of HR deployment. Lack of systemic approach for HR analysis and regularly used data sets affects the planning in relation to different categories of teachers in addition to general and specialized teachers:

- Teachers in Bulgarian schools abroad;
- Vocational subject teachers (grades 8–12) employed by schools;
- Pedagogy experts employed by MOES, for example in Centers for Personal Development Support and Centers for Special Educational Support;
- Assistant teachers employed by schools and kindergartens;
- ECEC (nurses and pedagogy specialists) working in ECEC provision under education, health and social system and employed (n the general case) by municipalities.

Due to the weak institutional arrangement in data coordination at the different levels of the system, planning and monitoring of the workforce is challenging. There are EU and international relevant tools and practices for planning and monitoring of teacher training programs, workforce dynamics, qualification, skills, and professional development that Bulgaria should explore to inform possible developments and address policy needs through a knowledge-based approach. Teacher workforce planning, in terms of actions that policy makers take to influence the supply and demand of teachers, needs to include the following:

- Monitoring candidates and graduates of ITE programs, employment and working condition trends among ITE graduates, and occupation vacancies;
- Monitoring the overall current teaching workforce through the regional distribution and demographic composition of teachers employed in schools; considering various dimensions of school needs, such as subject specialists, students with special needs; and working retirement trends among employed teachers;

- Analyzing and forecasting teacher demand and supply through (a) student demand projections and (b) trends in ITE applications and graduation rates, teacher retention, attrition and retirement, and school openings, closing, and staffing;
- Managing decisions and incentives related to teacher deployment, teacher professional development, and 'teacher continuum perspective' elements - teacher selection, enrollment and graduation from ITE, teacher deployment, retention, and retirement.

Workforce monitoring deals with defining and gathering relevant, precise, and tractable information for planning. Monitoring is not only a technical process of data gathering and data system restructuring to comply with new purposes from existing data registries and data sources. It also implies the capability of bringing in different key actors to define a specific vision and model on how teacher supply should respond to demand challenges and what specific dimensions need to be considered. A careful consideration is taken regarding the process of consensus building among key stakeholders in the construction of teacher supply and demand models for monitoring purposes.

The Bulgarian education system is facing, like many other EU countries, an important challenge in responding to system needs related to teaching workforce planning. Over the past few years, the Bulgarian government has been guided by an explicit intention to (a) reverse the trend toward ageing of the teacher workforce; (b) reverse the trend toward feminization of the workforce; (c) reduce or eliminate shortages of qualified teachers in particular subjects, especially English and STEM related; and (d) reduce or eliminate shortages of qualified teachers in certain types of hard-to-staff schools. Looking at the aggregate data (Chapter 2 and Annex 5), the first two objectives have not been accomplished in either preschool or school education, though the government has at least managed to maintain a stable STR). The second objectives have not been met according to both official comments by the Minister of Education and the opinion of MOES and independent experts.

The ambitious policy amendments and new initiatives[101] are supposed to have and be based on substantial impact on the demand for preschool and school teachers in the Bulgarian education system. The reforms and associated processes have not incorporated by impact assessment on the workforce demand. Overall, four new processes had affected the supply and demand dynamics for teachers at the national level - raising baseline salaries across the board, reimbursing commuting and renting costs, testing models for an online marketplace for participants and changes related to the number of allowable sections and teaching workload.

Table 3.17. Current policy instruments aimed at shaping the job market for qualified teachers

Target	Description	Decision-maker	Formal regulation	Policy implemented
Incentives aimed at schools	Schools get differentiated per capita funding depending on size of municipality, remoteness from regional urban center, and socioeconomic status of students.	CoM	Decree No. 219 form 2017	At least since 2012

[101] The new law redefines the institutions in the education system that employ teachers; expands the objectives of preschool and school education; changes the years of compulsory schooling (between 5 and 16 years of age); reduces the years of basic education (grades 1 through 7); increases the time students are required to spend in school during basic education; creates two separate levels of high-school education (grades 8–10 and grades 11–12); and introduces curricular changes at all levels. The processes introduced new regulations/standards governing information and documentation, teacher qualification, roles, responsibilities, and nonteaching tasks within schools and kindergartens, teaching workload norms, curricula, and funding for schools and universities.

Target	Description	Decision-maker	Formal regulation	Policy implemented
	Schools must advertise open positions at the Regional Education Authority website and local Labor Bureaus.	MOES	Ordinance No. 15 from 2019	At least since 2011
	Schools can find potential candidates at the online marketplace.	MOES	Ordinance No. 15 from 2019	To be launched in 2021
	Schools are allowed to hire irregular teachers who are in the process of obtaining qualification if no qualified candidates apply.	MOES	Ordinance No. 15 from 2019	At least since 2012
Incentives aimed at teachers	Raising teacher base salaries across the board	MOES	Governance Programme 2017, Annual Collective Labor Agreement as per Labor Code, Decree No. 219 from 2017	2017 till present
	Teachers can opt to delay retirement.	MinFin	Labor Code	
	Teachers eligible for financial bonus function of performance	MOES	Decree No. 2019 from 2017	At least since 2012
	Teachers reimbursed to cover costs of commuting and renting	MOES	Decree No. 219 from 2017	2017 till present
	Teachers allowed to count individual and group tutoring periods and periods in subjects in which they are not qualified toward their minimum required workload	MOES	Decree No. 2019 from 2017	At least since 2012
	Teachers can get reimbursed to obtain a qualification in another (related) subject.	MOES	Motivated Teachers National Program from 2019	2019 till present
	Regulated career and salary promotion ladder	MOES	Ordinance No. 15 from 2019	2019 till present
	Regulated continuous professional development	MOES	Ordinance No. 15 from 2019	2019 will present

There are no forecasting supply and demand model and tools in place and there is no common agreement on how such a model should be built, institutionalized, and adapted to the Bulgarian education system context. A monitoring tool to help in managing teacher workforce dynamics has been recently constructed by the Ministry of Education. It is a step in the right direction, but it is not fully functional and yet to be institutionalized. Also, the ministry is on track launching an online platform or registry facilitating the match between graduated teachers and other qualified teachers and employers in the education system. This is a promising initiative which will need oversight and sound implementation to make it a truly planning and monitoring tool for the whole education system. Advanced education systems have designed participatory processes of key stakeholders (including governments, parliaments, education councils, teacher unions, teacher councils, and researchers) with the aim of finding a broad political and social consensus of how teacher supply should respond to education demand and which key elements should be considered in doing so. This is a nontrivial question, as it involves specific visions about how education should be organized, which students should be prioritized, and what services should be provided. Supply and demand models, if well implemented through planning decisions, imply the largest proportion of the education budget (through teacher and nonteaching staff wage recurrent costs). It is therefore appropriate to count on the key stakeholders in finding such a model definition. Moreover, forecasting teacher demand and supply through modelling is a recurrent practice in many education systems.

Labor relations

Ensuring healthy employer, employee, union organizations relationships

One peculiarity of the Bulgarian education system is the strong role of trade unions in the management of the teacher workforce.[102] This role gives, to a certain degree, the decision-making in education to teachers with a decisive role in exercising authority in governing schools.[103] As a result, school-based decision-making related to workforce management in Bulgaria is shaped to a large extent by consultation mechanism defined by the influential role of teacher unions. There is a recent example of the limited decision-making authority of the school principals as opposed to the influence of teacher unions over the rules of HRM. In 2018, the Union of Employers in the System of National Education in Bulgaria signed the current CLA with the clear statement of disagreement to (a) the requirement for the teacher union's permission in case of dismissal of a teacher who is member of the respective teacher union (Art. 10 (3) of the CLA) and (b) the list of elements to be included in teachers' working hours (Art. 40). Despite this disagreement, these requirements were enforced and became obligatory for school principals.

Conclusion

Bulgaria has strengthened its workforce policy framework in recent years but still uses an incomplete, traditional, and non-strategic approach in planning and implementing the framework for staffing schools to influence quality of learning

The government has been active in introducing crucial policy measure and interventions to advance the quality of workforce in recent years. However, the mission is far from complete. Realizing the flows, the government has instituted recent policy approaches to encourage and incentivize students to major in education at universities by classifying 'teaching as a priority profession', increasing the opportunities for teacher continuing professional development and qualification, and improving working conditions of the profession with motivation measures and incentives.

The fragmented mix of policy approaches, measures and mechanisms without clear common national priority focus areas or topics for CPD does not guarantee improving teacher competences and learning outcomes. In order for the CPD policy to meet its objective to improve student outcomes through investing efforts in teacher CPD, policy measures should be based on formative assessment informed by classroom practices results with CPD training strategically targeted towards improving learning outcomes through supporting the development of competence-based teaching and learning approaches.

Monitoring, data, analysis, and research are serious obstacles that should be addressed strategically. The current practices are not strategic nor innovative to ensure that the best candidates are attracted to the teaching or leadership profession and make a difference on the ground. The lack of strategic workforce management protocols and institutionalizations based on data and evidence is leading to a more critical situation with increased numbers of teachers close to the retirement age and a future that is threated by lack of effective teachers.

[102] Radó, 2010.
[103] Ibid.

CHAPTER 4. School Leadership: Supporting Principals as Leaders of School Communities

International research increasingly distinguishes *school leadership* from school management or school administration, though the terms are often used interchangeably in terms of the responsibilities of school leaders. *Leadership* involves higher-order tasks and influence aimed at steering organizations by shaping other people's attitudes, motivations, and behaviors, particularly toward school improvement efforts and student learning outcomes. *Management* is more closely associated with maintenance of current operations.[104] *Administration* lays down the fundamental framework of an organization to enable to deliver its vision and objectives, within which the management of the organization functions. School management, on the other hand, is the operational delivery of the requirements of administration, implementation and maintenance of practices, and systems required to achieve the stated change. Effective leadership, management, and administration are necessary for the success of schools. The three elements in the right combination are essential and closely intertwined in the work of school leaders, namely principals and deputy principals.[105]

Importance of school leadership for improving education quality

Research has shown that school leadership has a powerful but indirect effect on student learning as mediated by other people, events, and organizational factors, namely teachers and the school's climate, which in turn support student success.[106] School leaders influence the motivation, capacities, and working conditions of teachers who in turn shape classroom practices and student learning. School leaders play managerial, political, instructional, institutional, human resource, and symbolic leadership roles in their schools. To obtain large effects, educators need to create synergy across the relevant variables, and among all stakeholders who work hard to improve education, school leaders are uniquely well positioned to ensure this synergy.

Research points to three important roles for effective school leaders: (a) improving student learning and raising the quality of schools, (b) providing a bridge between policy and practice, and (c) connecting schools with the wider community.

School leadership plays a crucial though indirect role in improving student learning and raising the quality of schools, particularly in disadvantaged schools. A large body of research has consistently demonstrated that effective school leadership is associated with improved school outcomes.[107] There is no single case of a school improving its student achievement record in the absence of talented leadership.[108] Highly effective school leaders can raise the achievement of a typical student in their school within two to seven months of learning in a single school year.[109] The effects of school leadership on student learning account for about a quarter of the total school effects, and the greater the challenge, the greater the impact of the leader's actions.[110] The effect of school leadership is therefore more pronounced in schools that display challenging circumstances.

[104] Bush and Glover, 2003.
[105] Note on terminology: Ordinance No. 15 refers to both directors of kindergartens and headmasters of schools as well as deputy directors. For simplicity, this chapter refers to 'principals' to cover both directors and headmasters as well as deputy principals.
[106] Hallinger and Heck, 1998.
[107] Hanushek, Branch, and Rivkin, 2013; Leithwood and Riehl, 2005; Louis, Dretzkey, and Wahlstrom, 2010; Teddlie and Reynolds, 2000; Waters, Marzano, and McNulty 2003.
[108] Louis, Dretzkey, and Wahlstrom, 2010.
[109] Hanushek, Branch, and Rivkin, 2013.
[110] Leithwood et al., 2004.

School leadership provides an essential bridge between educational policy and practice. School leaders are responsible for operationalizing almost all education initiatives aimed at improving student learning and raising the quality of schools. The success or failure of any policy ultimately depends on the actions and motivations of school leaders who play a major role in implementing education policies and education reform.[111] Whereas higher levels within systems of education can provide policy directions for schools, policy success often depends on actions of leaders at the school level. For centrally initiated reforms to become meaningful to all school-level stakeholders, they need to be associated with internal school improvement activities in a coherent way. Successful implementation and institutionalization of reform requires leadership at the school level to promote adaptations of school processes and systems, as well as cultures, attitudes, and behaviors.

School leadership connects the school with the wider school community. School leaders play an important role in strengthening the ties between school personnel and the communities that surround them. Leaders of the most successful schools in challenging circumstances are highly engaged with and trusted by the schools' parents and wider community. They also try to improve achievement and well-being for children by becoming more involved with other partners and integrating the work of the school with employers, social welfare agencies, universities and training providers, and other organizations in pursuit of actions to improve school performance.[112]

School principals in Bulgaria play a major role in school improvement and workforce management following reforms that have delegated significant financial and decision-making autonomy to school principals. Such roles and responsibilities include (a) teacher recruitment, promotion, and dismissal; (b) teacher performance monitoring and assessment; (c) provision of support to teachers to improve instructional practice; (d) evaluation of overall school performance; (e) management of the school's budget; (f) representation of the school to Regional Education Authorities and other local authorities; and (g) maintaining of student discipline. However, in practice, many of these responsibilities involve centrally prescribed regulations and CLAs, both of which limit the amount of autonomy principals have in reality. Even so, many of the tasks that are expected from principals in Bulgaria are aligned with instructional leadership tasks that research suggests are associated with high student performance, though their administrative load may be especially burdensome and may detract from their ability to manage teachers effectively.[113] While all important elements of principals' three key roles (improving student learning, bridging policy and practice, and connecting schools with the wider community) are prescribed in legislation and relevant educational standards in Bulgaria, practice is lagging as principals' work is commonly focused on school management and administration, rather than school leadership.

Framework for effective school leadership

As noted by the ET2020 Working Group on Schools, school leadership should be much more than management. The head, or principal, is expected to have a vision for the school with the right mix of competences and charisma to support school staff and guide the school toward learning objectives for students. Accordingly, school leaders should combine attributes of leader, manager, entrepreneur, and coach and be involved in instructional leadership, developing leadership capacity within the school, managing the organization, and leading school improvement efforts.[114] In general, school leaders must assume responsibilities in an ever-wider range of areas: instruction, school culture, management, strategic development, micro politics, human resources, and external development. This

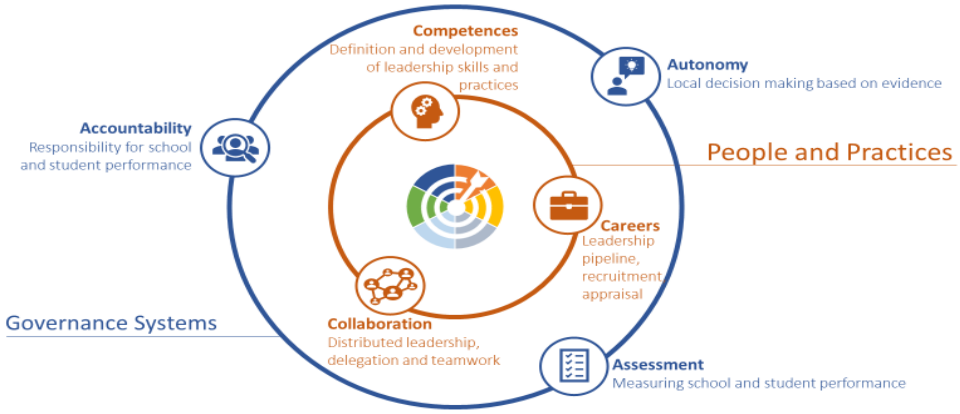
[111] Fullan, 2001,; Hopkins, 2008.; Moos and Huber, 2007.
[112] Benecivenga and Elias, 2003; Cotton, 2003; Fullan, 2001; Hargreaves et al., 2008.
[113] World Bank, SABER Teachers Report 2016.
[114] EC, 2018. *Teachers and School Leaders in Schools as Learning Organizations: Guiding Principles for policy development in school education.* Produced by the ET2020 Working Groups.

requires a considerable amount of their time and can be particularly challenging. To address these challenges and ensure that the right people with the right leadership practices become school principals, policy makers need to focus on three interrelated areas: (a) leadership competences, (b) careers for school leaders, and (c) collaborative leadership practices within schools.

At the same time, Bulgaria's education policy envisions that school principals should have significant decision-making power for school strategic planning, workforce management, and budget allocation. This follows the introduction of the SBM model back in 2008, establishing a decentralization of autonomy to the school level. As a result, school principals are fully responsible for managing the budget of their school. This means that they are able to make decisions about the use of school resources, the management of the teaching workforce, setting up of relationships with contractors and vendors, and so on. Workforce management authority covers teacher selection, recruitment, setting of teacher salary levels and bonuses, evaluation, CPD, and dismissal. However, while SBM is considered a valuable instrument for better resource allocation and staff management, its potential to increase efficiency of school management and ultimately improve student learning depends on other factors. Notably, these include the extent of real autonomy granted to schools, the accountability arrangements in place, availability of information on student learning through assessments, and the capacity and competences of school leaders to exercise their autonomy in practice.

Effective leadership requires governance systems for SBM to be aligned with capabilities, practices, and incentives for school leaders. Bulgaria has made significant policy developments related to SBM and school-level decision making, which directly affect the work of school principals. However, more attention is needed on the people who hold school leadership roles and their leadership practices to target learning at the core.

Figure 4.1. Framework for effective school leadership



People and practices: Leadership competences, careers, and collaboration for instructional leadership

As shown in Figure 4.1, effective school leadership requires highly skilled leaders who act as instructional leaders for the school, modeling a series of competences and practices that are known to matter for student learning. In particular, this requires a clear and functional definition of leadership competences, a career structure that builds leadership skills and incentivizes the most talented to become school principals, and a collaborative approach to leadership that is adapted to schools' specific needs and circumstances. These are described in in the following paragraphs.

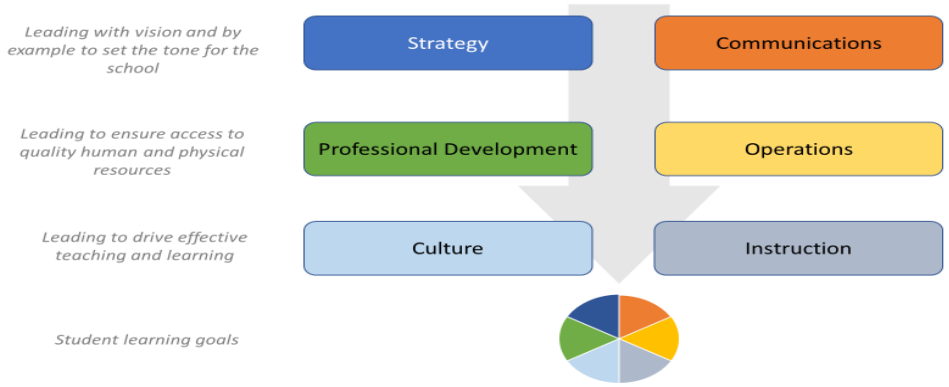
Leadership competences

Research has consistently highlighted key leadership practices and strategies for effective school leadership which influence teaching and learning. These can be grouped into six overarching domains of effective school leadership (see Figure 4.2).

- **Strategic leadership:** Developing and implementing a shared mission, vision, and values focused on student learning is a key role of school leaders. Effective leaders engage all stakeholders in a collaborative process to develop concrete goals focused on learning and growth of all students and keep schools focused on achieving those goals.[115]
- **Communications leadership:** Effective school leaders communicate as advocates on behalf of their school, conveying a common message to staff, students, and parents regarding expectations for student achievement. This is linked to the establishment of partnerships with families and communities, which is particularly important for disadvantaged schools where deliberate actions may be needed to gain confidence and enlist support.
- **Operational leadership:** Effective school leaders strategically organize resources—time, people, funds, environments, and structures—to maximize student learning. Aligning resources for professional development needs, student support, ICT, and other expenses is key. Staff assignment is critical and safeguarding the composition of the teacher workforce is a key role of school leaders. Operational leadership also involves the effective use of data for decision-making, including both formative and summative assessment data as well as administrative and financial data to monitor progress toward school goals and identify underlying causes of deficiencies or success in student achievement.
- **Professional development leadership:** Effective school leaders create opportunities for relevant and sustained CPD for their staff and themselves. They make CPD an ongoing part of teaching and managing instruction, targeting it to teachers' needs, supporting professional learning communities, and aligning CPD provision with school improvement goals. They also use CPD as a means to support accountability of staff.
- **Instructional leadership:** Effective school leaders provide instructional leadership by concentrating their efforts and resources on improving teaching and learning for all students as the center of planning and staff development. First and foremost, this involves guaranteeing access to the critical curriculum for all students by customizing the curriculum where permitted, adapting to the needs of different learners in the school, and ensuring that teachers follow the curriculum and are knowledgeable about and deeply involved in the school's curricular program. It also involves observing instruction in classrooms, mentoring teachers and providing feedback, monitoring curriculum implementation, and protecting teachers' instructional time and buffering teachers from distractions.[116]
- **Cultural leadership:** Effective school leaders maintain a safe and orderly school environment and build trust and integrity between teachers and students. Evidence has shown that high-trust schools have stronger collective decision-making, with greater likelihood that reform initiatives take root.[117] Leaders have an important role as well in promoting collaboration among teachers and capitalizing on such collaboration to coordinate curriculum alignment and extracurricular school activities.

[115] Leithwood and Riehl, 2005; Leithwood et al. 2004.
[116] Hallinger 2005; Marzano, Waters, and McNulty 2005; Robinson, Lloyd, and Rowe 2008.
[117] Louis 2007.

Figure 4.2. Six domains of effective school leadership



Policy aspects addressing school leadership in Bulgaria

Standards on education leadership

In Bulgaria, leadership competences for principals and deputy principals are articulated in the state education standard for the status and professional development of teachers, directors, and other pedagogical specialists (Ordinance No. 15, 2019). The professional profile requirements for principals in Bulgaria define three competence areas: (a) pedagogical competences (Appendix 1, Table 1), (b) managerial competences (Appendix 1, Table 2), and (c) social and civic competences (Appendix 1, Table 3). Leadership competences build on those defined for teachers by focusing on quality education processes; strategic management at the institution level; and social, civic, and managerial requirements specific to the principal's role. Within each competence area, the professional profile requirements define specific KSAs expected of principals and deputy principals. A detailed side-by-side comparison of competences for principals and deputy principals is included in Annex 4. Each table maps similar KSAs for both principals and deputy principals.

A review of Bulgaria's defined competences for school principals shows that all six areas of effective school leadership are represented, though to different degrees and at times in an unclear structure. A shared vision of what good school leadership looks like is the foundation for effective school leadership, and Bulgaria's principal competences defined in Ordinance No. 15 of 2019 are a strong step in the right direction. However, the structure and clarity of these competency standards could be improved for the ITE, CPD, and principal appraisal.

Managerial KSAs for school leaders (shown in Appendix 1, Table 2) are poorly defined and not linked to student learning outcomes. In Appendix 1, Table 2, the managerial KSAs stated in Ordinance No. 15 have been reorganized and grouped according to several subthemes. However, it is clear that the majority of KSAs focus on processes, rather than student learning outcomes, as well as compliance with state education standards. Only one KSA even refers to outcomes or results. For example, principals and their deputies are expected to have the ability to "analyze the results of the institution's activities and outlines measures to improve the quality and efficiency of work." However, the link between results of the institution's activities and students' acquisition of key competences according to the PSSEA is not clear.

Such competences defined in the profile requirements are expected to guide and serve as a reference point for ITE and CPD programs, which is why further clarification and functionality is critical. ITE programs are expected to guarantee that the elements of the standard (all competences) listed are fostered, trained, and assessed during university studies for future education professionals. To guarantee quality, while accounting for the autonomy of

universities in Bulgaria, an accreditation system is in place to assess the range of BA, MA, and PhD programs offered in all professional fields including pedagogy. The policy effort of Bulgaria for introducing competence-based learning and innovation in teaching requires CPD to address professional standards in Bulgaria in three directions: (a) foster competences that are subject to regular update and lifelong learning and to develop competences needed for the existing workforce positions on a continuous basis; (b) guarantee a flexible approach that accommodates different workforce cohorts taught under different programs and teaching approaches to be rapidly included in a system for competence updating and catchup; and (c) based on profile requirements and *specific student outcomes* (PSSEA Art. 212), address specific professional development priorities formulated for every teacher and principal. Ensuring that competence profiles are well-defined and applicable as tools for ITE and CPD programs will ensure that they serve as a tool for developing school leadership competences throughout the education system.

Despite the importance of instructional leadership and the fact that competence profiles in Bulgaria cover all elements of effective leadership, principals appear to spend a lot of their working time on administrative tasks and meetings, which leaves less room for instructional leadership, classroom observations, and related activities. According to data from OECD's TALIS, principals in Bulgaria report a statistically significant increase in the average proportion of their time spent on "administrative and leadership tasks and meetings" from 44 percent in 2013 to 52 percent by 2018. By contrast, principals' reported share of time spent on "curriculum and teaching-related tasks and meetings" decreased from 23 percent in 2013 to 17 percent in 2018.

Recommendation: Develop principal competences into functional and user-friendly leadership performance standards, with accompanying instruments. Leadership performance standards, built from the defined list of competences, can be used for different purposes, such as selection of school leaders, clarification of functions and expectations for school leaders, professional growth, performance evaluation, and career progression. They can also be used to develop school leadership development programs and other policy actions. However, their clarity is key for their functionality as a policy tool. Other high-performing education systems that use leadership performance standards have developed them to be user-friendly. Performance standards are most practical if they define (a) the commonly agreed knowledge and practices that school leaders should exhibit, (b) how attainment of the standards is to be assessed, and (c) the level of proficiency that is sufficient to meet the standard. Defining standards could also benefit from inclusion of indicators to delineate further action. For example, in British Columbia, Canada, the standards are accompanied by questions to guide the reflection on whether the performance standard has been achieved (see below). In New Zealand, the definition of standards is complimented by evidence to illustrate achievement.[118] In Bulgaria, restructuring and developing the leadership competences for principals into defined leadership standards with indicators and proficiency levels is an important next step to convert the leadership competences into a practical tool for policy implementation.

Examples of competence frameworks:

- Ontario (Canada): Ontario Leadership Framework[119]
- United States: Public Impact Rubric for Competence Assessment with performance zones and levels for each cluster of competences[120]
- Hong Kong SAR, China: Principals' Capability Framework[121]

[118] Barber, Clark, and Whelan 2010.
[119] https://www.education-leadership-ontario.ca/application/files/8814/9452/4183/Ontario_Leadership_Framework_OLF.pdf
[120] https://publicimpact.com/wp-content/uploads/2009/09/Turnaround_Leader_Competencies.pdf
[121] http://www.hkpi.org.hk/images/hkpi/2020/PCF/PCF_Eng_2020.pdf

Careers toward leadership

Principals in Bulgaria tend to be older and more experienced than their peers in other countries but with relatively little experience in other school management roles before taking on the principal role. Principals are on average 53 years old, similar to the OECD average. However, along with the overall trends in the age profile of the teacher workforce in Bulgaria, the average age of principals has increased over time. There has been a statistically significant 21.4 percent decline in the number of principals ages 40–49 since 2008, while there has been an increase in principals over age 50 (by 19.7 percent) and in principals over age 60 (by 11.5 percent). Meanwhile, the number of young principals under age 40 represented only 2 percent in 2018. By comparison, in Estonia 7 percent of principals are under age 40 (despite having a similar age profile of teachers). Furthermore, Bulgarian principals have only 1.8 years of experience on other school management roles before becoming principals, compared with 3.8 years in Slovenia, 5.1 years in Estonia, and 5.8 years in EU-23.

Figure 4.3. Principals' age profile (2018)

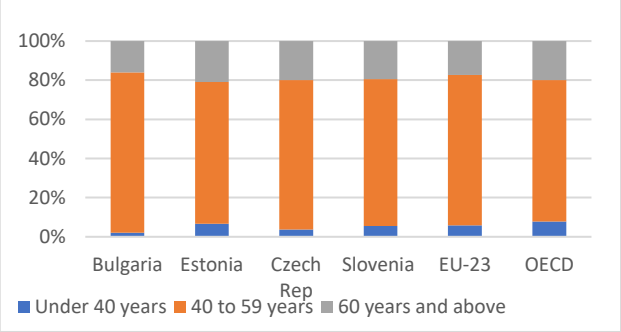
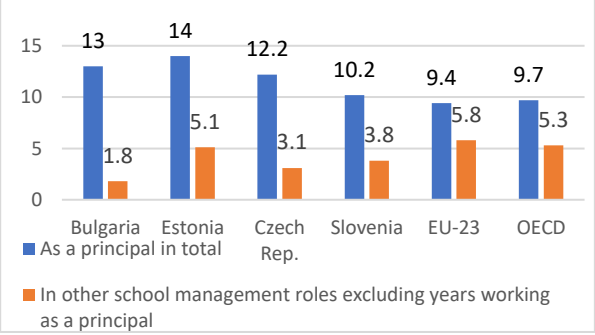


Figure 4.4. Principals' years of experience (2018)

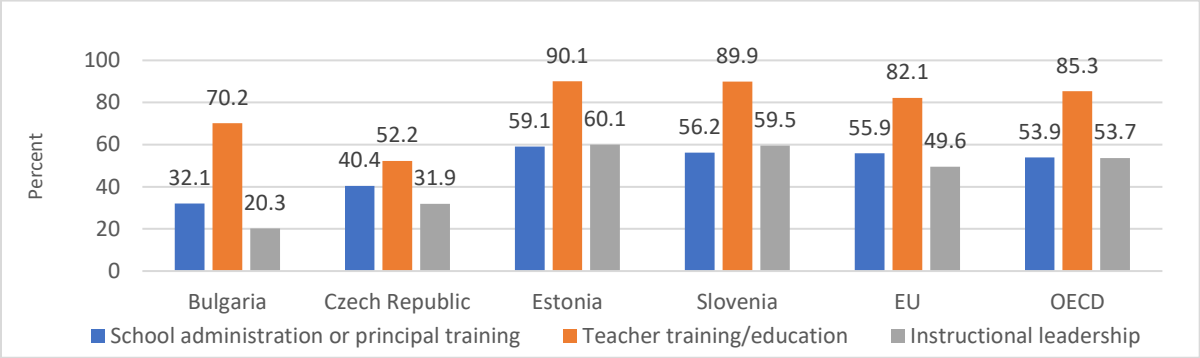


Source: OECD TALIS.

About 73 percent of principals in Bulgaria are women (while 80 percent of teachers are women), though this is substantially higher than the EU average of 54 percent. In fact, the share of female school principals in Bulgaria exceeds that of most European countries, including the Czech Republic (52 percent), Estonia (57 percent), and Slovenia (63 percent).

School principals in Bulgaria are more highly educated than the EU and OECD averages, although they tend to have less formal preparation in key school leadership domains before taking up their principal positions. About 93 percent of principals in Bulgaria have master's level education, which is roughly consistent with the three EU comparator countries and significantly above the EU (65 percent) and OECD (63 percent) averages. However, only 32 percent of principals had formal education or training in school administration or principal training programs before taking up their position as principal (compared to approximately 55 percent in the EU and OECD countries), and only 20 percent had such training in instructional leadership. Nearly one in three Bulgarian principals has never had any formal training or education related to instructional leadership.

Figure 4.5. Share of principals trained by topic before taking up position as principal (2018)



Source: OECD TALIS.

University programs for school administration

Ordinance No. 15 on the status and professional development of teachers, principals, and other pedagogical specialists requires school principals to have a master's degree, though principals are not required to have training in instructional leadership. To become a school principal in Bulgaria, according to Article 33 of Ordinance No. 15 (2019), a candidate must have a master's degree and a minimum of five years of teaching experience. However, there is no requirement for the MA degree to be in areas that support development of management and leadership skills. However, until a position is occupied on a competitive basis, the principal's position may be filled by persons who hold a bachelor's degree and have a minimum of five years of teaching experience. There are some training courses available for newly appointed principals, but they are not mandatory. There are currently no specific training mechanisms to ensure that applicants to principal positions can develop the necessary skills to act as instructional leaders, such as specific coursework or participation in a mentoring or internship program.[122] Furthermore, while the acquisition of PQDs is a condition for career advancement for teachers, appointment to the position of principal or deputy principal is not related to obtaining PQDs.

Since the mid-1990s, training and development for school management have been introduced or strengthened in many countries all over the globe. The degree of professionalization varies across countries, as there are different requirements and types of programs. Country approaches can be grouped into three major ones: (a) preservice or preparatory training to take up the position, (b) induction training for those who have recently taken up the position, and (c) in-service training provided to practicing principals.

The situation before the 1990s, when education institutions from kindergartens till universities were mostly managed by most experienced and ambitious teachers and researchers, has rapidly changed. Many school leaders themselves called for it as a teaching background does not necessarily prepare for leadership and managerial practice. The increased provision of training across countries has developed in response to the changes in school leadership roles and responsibilities. When principals take up their position, they may not necessarily be competent as pedagogical leaders and they often lack knowledge in personnel and financial management and the skills for working beyond the school borders—the leadership tasks required for schools of the 21st century.

Thus, specific MA degree programs in education management/administration/leadership were developed by universities and in many countries became even prerequisite for school principals' candidates (for example, US

[122] SABER 2013.

requirements to school principals).[123] Many European countries are also following this trend: the United Kingdom, Finland, Estonia, and Slovenia. Making leadership training a prerequisite or a strong asset for practice can contribute to improved schooling quality through greater professionalization of the role, to greater satisfaction of principals in their jobs, and possibly to increased numbers of candidates for positions.[124]

In Bulgaria, the situation is quite the opposite. While school principals are interested in growing as professionals in the areas of their professionalization, including undertaking MA and even PhD programs, they are not so much involved in administration and management degree training. This is partially because of national requirements—Bulgarian legislation does not require such education to be completed—and partially because of lack of proposals from universities. There are a few programs on the market; only five proposals for admission to the MA program in management in education can be found on the websites of Shumen University, South-West University, Veliko Turnovo University, University of Sofia, and Plovdiv University.[125]

During the last seven years, a significant number of students were enrolled for this program (see Table 4.1). Unfortunately, data on graduation do not provide big hope—among 977 students enrolled in 2013–2017, only 590 students graduated, about three-fourths of whom are from schools (including teachers and administrative staff) and drop out is equal to 40%.[126] Considering that in 2020 there are 1,963 schools and 1,840 kindergartens in Bulgaria in total,[127] this number might be insufficient if MOES would like to promote talent competition for leadership positions. The problem of the high dropout for the Management in Education programs needs specific attention from university management and MOES.

Table 4.1. Number of students enrolled and graduated: MA in theory and Management of Education 2013–2019

Year	2013	2014	2015	2016	2017	2018	2019
Enrolled	189	226	188	195	179	234	211
Graduated	—	—	122	89	120	124	135

Source: https://rsvu.mon.bg/rsvu4/#/general-comparison.

While the number of graduates is limited, the quality of the curriculum proposed is rather high compared to the benchmarks. All five MA programs have been jointly developed by the Bulgarian team of university teachers and experts from the National School of Management in Education of the University of Amsterdam (Netherlands). The curriculum is quite similar in all five universities, with only slight differences. The number of topics covered is significant and aligned with the specific needs of Bulgarian schools as well as the latest trends of international education management development. The program curriculum provides knowledge in main areas of school administration responsibility such as school management, economics and financial management, strategies, HRM,

[123] Principal Education, Training and Certification Requirements: https://study.com/principal_education.html
[124] OECD 2008, 136. https://www.oecd.org/education/school/44374889.pdf.
[125] http://shu.bg/sites/default/files/ksk/pf/magistri/UO.pdf
http://www.swu.bg/academic-activities/academic-programmes/masters-programmes/educational-theory-and-management/educational-management.aspx
http://www.uni-vt.bg/bul/pages/?page=142&zid=1
https://www.uni-sofia.bg/index.php/bul/universitet_t/fakulteti/fakultet_po_pedagogika/uchebna_dejnost_bakalavri_magistri_doktoranti_sdk/magist_rski_programi/fakultet_po_pedagogika/teoriya_i_upravlenie_na_obrazovanieto/obrazovatelen_menidzhm_nt_redovno_i_zadochno_obuchenie
https://uni-plovdiv.bg/uploads/site/Mag1920/ПЕДАГОГИЧЕСКИ%20ФАКУЛТЕТ12.pdf
[126] https://rsvu.mon.bg/rsvu4/#/general-comparison
[127] https://www.nsi.bg/en/content/4855/general-schools-type

leadership, project management, team management, and many others. On the other hand, teaching and learning methods used are quite conservative and do not provide opportunity to fully use the good content of the programs.

Recommendation: Create incentives for school principals to undergo a designated management and leadership training program before accepting a position as a school leader, including the possibility of a school leader certification or licensing program.[128] A certification or licensing process can help ensure that new principals entering leadership positions meet a minimum threshold of knowledge, skills, and abilities. This can be supplemented with on-the-job CPD of principals including through peer mentoring. Such 'executive leadership programs' could be housed within a specialized institute or university, or they could be offered by multiple public or private institutions. Existing MA programs in school management/leadership at Bulgarian universities could be transformed into this model of executive programs and universities could be encouraged to improve teaching practice and align program content with defined competence frameworks and professional standards for school principals. The high dropout rate from existing MA programs should be further investigated in the context of this recommendation, and mitigation measures should be developed accordingly.

In Slovenia, to obtain a license, school principals have to follow the mandatory Headship License Program, which is organized by the National School for Leadership in Education (NSLE) in Slovenia.[129] This public institution was established in 1995 to support the professional development of principals. Their activities include CPD, publishing of study material, and research. In recent years, the ESF has co-funded several programs of the NSLE. Similarly, in Spain, candidates for principal positions need to pass a mandatory training course on leadership development equivalent to 120 hours, including both theory and practice. In both cases, the mandatory leadership programs are not equivalent in duration to a full MA program. There are also hybrid models, such as in Austria and the Slovak Republic, where school principals are required to undertake part of their training before appointment (resulting in a conditional certification) and then continue preparation during their first years on the job.[130]

Principal talent pipeline, succession planning, and principal selection

Effective screening and selection of school principals requires several key factors which are connected to defined leadership standards. High-performing education systems have rigorous and transparent processes, including through involvement of the school teaching staff, for screening applicants and ultimately selecting the best-qualified individuals to meet schools' needs. Such processes ensure that all eligible candidates get a fair chance to demonstrate their knowledge, skills, and competences. Furthermore, the selection procedures used may discourage potentially interested candidates.[131] Key considerations include clearly defined selection criteria, a recruitment structure with clarity on how different levels of government are involved, formal guidelines for the principal recruitment process, and clarity on the selection process (for example, interviews, observations, or situational exercises) and composition of the selection panel. For example, in the United Kingdom, assessment of applicants for principal positions involves a series of assessment components, including an initial application and then a subsequent assessment process including a one-to-one interview, roleplaying activities, workshop, coaching session, and a 360-degree appraisal and self-assessment. This assessment is part of a formal licensing process that

[128] Certification is typically a voluntary process, while licensing is a required or mandatory certification.
[129] OECD 2016. http://en.solazaravnatelje.si.
[130] OECD 2019.
[131] For example, a survey in Australia found that almost half of the respondents cited the selection process as the biggest deterrent to potential applicants to school leadership positions (Pritchard 2003).

leads to the National Professional Qualification for Headship (NPQH).[132] However, since 2013, aspiring school leaders no longer need to acquire the NPQH or hold Qualified Teachers Status, which had previously been compulsory.[133]

Selection of principals and deputy principals occurs through an open competitive process that includes a written exam on relevant legislation, but the selection mechanism should also be strengthened to validate their competences and motivation to work as principals. Currently, there is no clear link between teacher performance and promotion into leadership positions, and the system currently does not have the tools to identify those teachers with strong leadership potential and develop them into formal leadership roles. Early identification of potential leaders for mentorship and sponsorship to participate in training of aspiring leaders is an important area for further development. Furthermore, the principal selection mechanism is not able to validate whether applicants have the competences needed to become effective school leaders. This is particularly the case given that current prerequisites for candidates do not include certification or qualification aligned with competency standards (as mentioned above).

High-performing countries are increasingly moving to longer-term assessments of leadership skills and potential to support principal selection. For example, in the Netherlands, teachers aspiring to be leaders can join 'development pools' where they undertake a part-time theoretical and practical course lasting up to three years. In other systems, selection decisions are made using a combination of interviews (including to join a pool and for a specific position), 360-degree assessments, observations by school inspectorates, presentations, and written tests.

> Both Singapore and Shanghai have well-developed systems for early identification and selection of principals. In Shanghai, aspiring candidates compete for principal eligibility certificates which 'pre-certify' candidates to apply for principal positions. Singapore has a comprehensive teacher appraisal system aligned to a teacher career ladder with three tracks in which leaders can arise: a leadership track, a teaching track, and a senior specialist track. Through the teacher appraisal process and the differentiated career tracks, leaders can identify future leaders early, even as early as the third year of teaching.[134]

Recommendation: Enhance principal succession management and selection processes by identifying aspiring leaders and strengthening selection criteria. Succession management requires the creation of pools of talented teachers who aspire to become school leaders and can undergo mentorship and sponsorship to participate in relevant leadership and management training programs, including a formal program that results in certification. Distributed leadership practices (see the next section) can help with this objective by developing a larger pool of eligible candidates for leadership positions. But selection criteria must be well designed to articulate the essential KSAs needed to successfully perform the job, facilitate comparison of candidates with one another, allow the recruitment team to select the best, and ensure that the selection process is objective and transparent.

CPD, performance appraisal, and remuneration of school principals

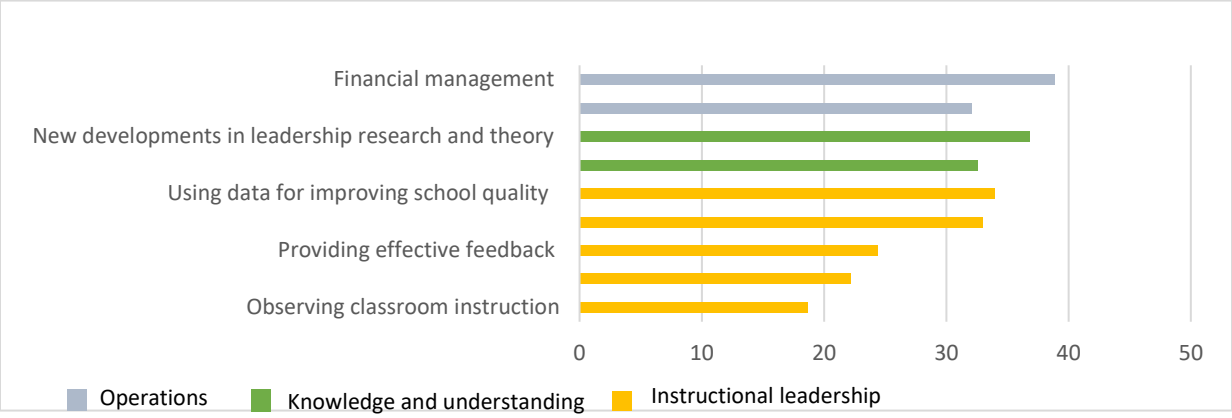
Research shows that once education systems get talented candidates to become principals, they need to structure their time to focus on improving instruction.[135] High-performing education systems such as Finland, Ontario, and Singapore think of their principals as instructional leaders. Principals are expected to be knowledgeable in teaching and curriculum matters as well as to provide guidance and support to teachers. They evaluate teachers, provide feedback, assess the school's needs for professional development, and direct instructional resources where they

[132] Attfield 2011.
[133] OECD 2019.
[134] Lee and Tan 2010.
[135] Barber and Mourshed, 2007; OECD, 2012.

are most needed. As mentioned below, school principals in Bulgaria have few opportunities for CPD in these areas, though they are officially expected to perform such roles according to professional profiles and appraisal criteria.

Principals in Bulgaria report a high level of need for CPD, particularly in operations and in knowledge and understanding of leadership and current educational policies. Principals' perceived need for professional development reflects the nature of their work as well as their education and experience. Given the amount of autonomy that has been given to schools, it is understandable that school principals in Bulgaria prioritize operational leadership aspects of financial and human resource management. Between one-third and 40 percent of principals identify these as high-need areas for CPD. Additionally, the ongoing education reforms in Bulgaria, including transition to competence-based learning and the implications for the wider range of education policies, have generated high needs for CPD in new and developing areas of leadership and in the current policies themselves. Interestingly, principals do not view aspects of instructional leadership (particularly on teacher feedback, teacher CPD, and classroom observation) as equally in need in terms of their own CPD. For example, fewer than 20 percent of principals feel they need CPD in effective classroom observation.

Figure 4.6. Share of principals reporting a high level of need for CPD in selected areas (2018)



Source: OECD TALIS.

CPD courses and programs on school administration exist for school principals, but principals are mostly not required to take them. Historically, CPD for school principals in Bulgaria has not been well regulated, and school leaders have participated in CPD activities on a voluntary and mostly nonstrategic basis.[136] The only required training for school principals focused on managing a delegated budget, which is just one of the myriad of responsibilities of school principals.

A key area for development is CPD for school principals and deputy principals on how to effectively organize, manage, and assess CPD options for their schools' teacher workforce. As described in detail below, principals and their deputies play a key role in organizing, managing, financing, and monitoring in-house CPD for teachers as well as CPD measured through training credited with PQCs. For example, principals effectively have internal control over the quality of in-house CPD and they report on results to the RDE. Additionally, they must have sufficient capacity to judge the quality of training courses offered on the market which convey PQCs for teachers. However, there are limited options for principals and deputy principals themselves to participate in CPD on the effective management of these processes and assessment of quality of in-house CPD. The education system in Bulgaria does not have a mechanism to guarantee that principals and deputy principals have the practical skills to monitor in-house CPD using proper indicators and tools. There are no obligatory trainings or instructions to support school leaders when

[136] SABER 2013.

exercising control over in-house CPD practices. Lack of sufficient training opportunities for principals and the lack of appropriate incentives to prioritize CPD activities in their plan present challenges to be addressed.

One good practice case is the Leadership Academy supported by the America for Bulgaria Foundation over the past several years which has provided structured opportunities to principals on developing their skills to organize in-house learning and CPD using different tools and formats like professional learning communities, coaching-based mentorship programs, and peer exchange practices. Without further CPD for school principals in this area, organization of in-house CPD will remain a rigid exercise for which the principal primarily assesses compliance and obligatory monitoring indicators rather than staff development based on staff needs and school development planning. Building on such good practices is a key priority for principals' CPD going forward.[137]

In Bulgaria, the professional standards are the primary target of appraisal criteria for principals, while student learning outcomes are not included. The current approach chosen for principal appraisal is to appraise performance of processes associated with key requirements (competences) and formal CPD participation (verification that the minimum required CPD is covered). The approach does not consider school self-assessment, external school evaluations, or school performance outcomes. In addition, the system does not have a school performance evaluation process oriented to school results, which further complicates the process for appraising school principals. By contrast, many other countries in Europe, including all three comparator countries, have external school evaluations as part of school leader evaluations.[138]

Bulgaria has planned to introduce an appraisal process for its education workforce in the 2020/2021[139] school year for the first time, based on Ordinance No. 15 of 2019. The recent policy initiatives to foster competence-based learning to improve learning outcomes are not reflected in the performance evaluation model for the education workforce where the appraisal approach is to register processes but not outcomes. The newly developed appraisal forms (Ordinance No. 15, Appendix 23–24) propose a balanced approach for review, assessing principal performance guided by the competences list introduced for principals and deputy principals where weights (points) are provided for different competences groups. CPD status and developments are registered with the cards, but there are no provisions to link outcomes of the qualification effort to appraisal. The appraisal is to be carried out by a committee appointed by the employer in coordination with the pedagogical council. In addition to predetermined criteria, the principal's employer will "define five criteria in the areas of professional competence, depending on the type of institution and its development strategy, and a scale for determining the level of their achievement." In theory, this is the place where principals' appraisal could be linked to student learning outcomes but only if the institutions' development strategy is also linked to student learning outcomes.

While Bulgaria should be commended for its efforts to introduce principal appraisal, there are several important disconnects that should be addressed to strengthen the appraisal process.

- Appraisal criteria defined in the appraisal forms do not have minimum performance thresholds, so it is unclear how points should be assigned. Maximum points per criterion implies that a principal score 2 out of 2 points on every criterion. However, the minimum score is 1 point (not 0), meaning that even if a principal were to

[137] Another example of a program focused on enhancing the organizational capabilities of schools is provided by the Association for Shared Learning (https://www.ela-bg.eu/bg/causa/edno-uchilishte-za-vsichki).This one is also provided by a nonprofit organization and has been externally evaluated.
[138] OECD 2019a.
[139] Due to COVID-19 developments, there are signals that MOES will postpone the launch of the appraisal process.

score at the minimum level on all criteria, he or she would still receive a score of 25 out of 50. This may distort the distribution and limit the usefulness of the tool.

- Performance thresholds are loosely built into the manner of assigning points: a principal could only understand how to 'master' KSAs for his or her position by looking at the appraisal form's definition of '2 points'. However, even this description includes many subjective concepts that would be difficult to distinguish in practice, such as 'demonstrating a high quality of work' and 'organizing and controlling activities of the institution in accordance with his or her powers'.
- Appraisal forms refer to some concepts that are not mentioned in the list of KSAs, such as establishing rules for selection, recruitment, dismissal, remuneration, incentives, and rewards.
- Appraisal criteria sometimes overlap, or they combine multiple concepts into one criterion, making it difficult to conduct an objective evaluation. For example, IV.1 in the Appraisal Form for school directors (under Ordinance No. 15) refers to both establishment of partnerships and reporting on budget performance.

There is a further disconnect between performance-based remuneration criteria for school principals and the specified appraisal criteria. Ordinance No. 4 of 2017 on work quotas and remuneration specifies that additional performance-based remuneration for the school year shall be paid to principals on the basis of an evaluation carried out according to indicators and respective criteria determined by the employer depending on the type of institution. This is intended to facilitate differential remuneration through distribution of bonuses. This ordinance contains 10 indicators, but these are not clearly defined or well linked to the appraisal criteria or the KSAs specified in the professional profiles. For example, indicator 1 is defined as "planning, organization and conduct of the education and teaching process," and 20 points out of 100 are assigned to this indicator. However, this is the core function of the school principal, which makes it a vague indicator; it is not clear what performance threshold needs to be met above and beyond a principal's normal duties to achieve this indicator. By contrast, indicator 10 defined as "ensured substitution of absent teachers in classes in over 70 percent of such cases in the course of the school year" is more specific but still is disconnected from the appraisal criteria and KSAs defined in the professional profiles (neither of which mention staff attendance or absenteeism specifically). Furthermore, none of the criteria for performance-based remuneration are oriented to results such as improving student learning outcomes.

Recommendation: Expand CPD options for principals and improve incentives for participation. Principals need more support and training to improve their ability to manage the teacher workforce, including on CPD for teachers and on effective teacher appraisal. This could involve enhancing existing CPD options, allowing private or third-party providers to offer accredited training, increasing access to EU mobility programs for principals, and supporting school principals to collaborate and share best practices with each other through professional learning communities.[140] In Chile, for example, school improvement networks promote learning between school leaders and other educational supervisory staff, while the Ministry of Education in Colombia established and funded a national School-to-School Program to generate collaborative work and facilitate experience sharing between schools. Similar programs exist in Lithuania (Creative Partnerships for Schools) and Slovenia (Learning Schools Network).[141] In any case, principals themselves can play an important part in the professional development of both aspiring and experienced principals.

Recommendation: Align professional profiles, appraisal criteria, and performance-based remuneration criteria and use consistent and well-defined indicators, including performance thresholds. Bulgaria has made an important step

[140] One example of a home-grown principal CPD initiative in Bulgaria is a joint effort between nonprofit and business organizations: http://edu2030.bg/2019/09/03/menijurska_akademia_za_uchilishtni_direktori/.
[141] OECD 2019.

forward in defining professional competence profiles for school leaders and establishing performance criteria. However, it will be critical, going forward, that the respective criteria are well aligned for different stages of a principal's career and for different levels of performance. Linking appraisal criteria and performance-based remuneration criteria to school results would also be an important direction for the future.

Good practices from other countries focus on the appraisal of school leaders' competences and related outcomes through the setting of individual goals and objectives. For example, in Australia, school principals are appraised with reference to state standards for school leadership and their learning needs are defined in relation to the school's improvement plan. In Chile, school principals are required to agree on two to four institutional targets and corresponding indicators as part of the regular mandatory appraisal process, with the targets being aligned to the school's institutional objectives.[142]

Distributed leadership

One area where principals do have significant autonomy is the distribution of leadership roles and functions to other school staff, namely deputy principals in the case of larger schools, or to head teachers and senior teachers. As specified in Ordinance No. 15 from (2019), principals determine all the details in job descriptions for deputy principals, head teachers, and senior teachers. For deputy principal positions, the principal has complete autonomy to define their functions and the number to be recruited. Most often the number of such positions depends on the budget. There are big schools in Sofia with up to seven deputy principals, while there are small schools with no deputy at all. Therefore, the workload of both the principal and the deputies can vary greatly. In small schools with no deputies, all the managerial and administrative work is done by principals and senior or head teachers. Ordinance No. 15 specifies roles and functions for head teachers and senior teachers which involve analysis of education results, supporting newly appointed and trainee teachers, and organizing and reporting on intra-institutional CPD training. However, the principal still has significant autonomy in allocating workloads for these teachers. These mechanisms facilitate the distribution of leadership functions while also theoretically helping to develop leadership competences among those individuals who hold deputy principal, senior teacher, and head teacher positions.

Recent developments further contribute to the opportunity for developing distributed leadership. Since the beginning of 2019, a new mechanism for financing schools and kindergartens is being implemented. Smaller schools (with less than 200 students), especially from rural areas, received a major financial boost, resulting in more money per student in comparison with the bigger schools and respectively more money per student than before. This allows even the smallest schools to have at least one deputy who supports the principal with administrative and managerial work. Furthermore, head teachers have been given more responsibilities and a more important role in school management.[143] This way they could further support the principal and deputy principal when it comes to planning and carrying out CPD activities and planning and implementing the curricula.

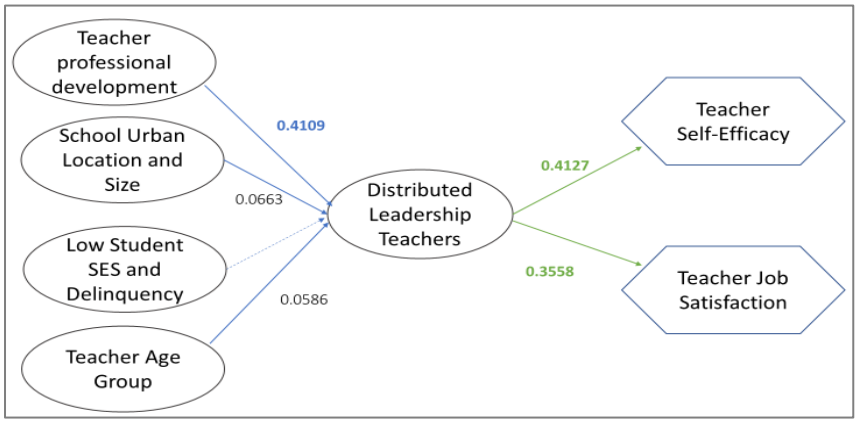
Principals' personal managerial style plays an important role in distributed leadership. There are principals who are personally involved in all school decisions and use their deputies as administrative assistants. This appears to be the norm, with most school principals accustomed to full control over most aspects of school work and development.[144] However, there are also principals who delegate all their duties to deputies and only supervise

[142] OECD 2013.
[143] Ordinance No. 15 (2019) Art. 7 states the additional functions expected of head teachers.
[144] Based on personal experiences, working with 39 school teams and directors during 2015–2019.

them. Practically, even though they take the same position, the nature and organization of the work can vary greatly for both the principals and deputies.

Distributed leadership refers to leadership practices shared by a network of people who are working independently toward a common goal of improving student learning. Greater use and encouragement of distributed leadership could have a powerful effect on learning environments in Bulgaria. International evidence on distributed leadership indicates that it can have a positive effect on student learning by increasing teachers' professional confidence and job satisfaction. This is particularly relevant in the context of Bulgaria's move toward competence-based learning. In-depth empirical analysis of the TALIS 2018 data further indicates that an important relationship exists between distributed leadership and teacher self-efficacy, including with the support of teacher professional development. The relationship between teacher professional development and distributed leadership as observed and practiced by teachers is statistically significant, including with further significant impacts on teacher self-efficacy and teacher job satisfaction. Figure 4.7 shows these relationships as well as the fact that school location in urban areas and school size also have a significant effect on distributed leadership practices.

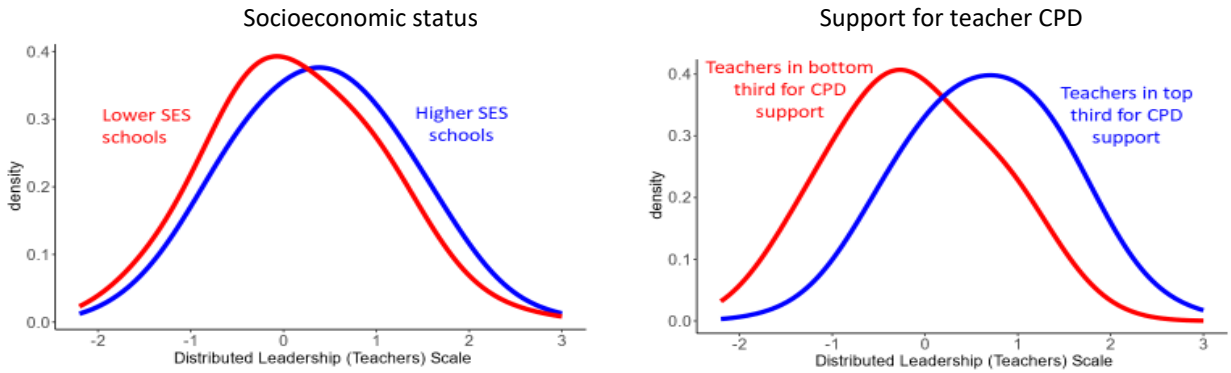
Figure 4.7. Distributed leadership in Bulgaria



Source: TALIS 2018, Bulgaria Sample (169 principals and 1,111 teachers).

Distributed leadership could make a significant difference, particularly in disadvantaged schools. Given that many schools with a lower socioeconomic status tend to be smaller and located in rural areas, the use of distributed leadership practice could help build teachers' capabilities while also freeing some time for school leaders to focus on instruction. Evidence from TALIS 2018 shows that schools with higher numbers of low socioeconomic status students have lower levels of distributed leadership. That said, teachers' CPD has a substantial effect on improving distributed leadership, and it can be used to enhance distributed leadership practice in schools with a particular focus on disadvantaged schools.

Figure 4.8. Factors affecting distributed leadership in Bulgarian schools



Source: TALIS 2018, Bulgaria Sample (169 principals and 1,111 teachers).

Recommendation: Strengthen capacity of school leadership teams (while also building a leadership pipeline) through collective forms of CPD. Distributed leadership practices and training for those holding middle leadership roles (senior and head teachers) have a twofold benefit of expanding leadership capacity at the school level while also developing and mentoring aspiring school leaders to hold leadership positions in the future. Although there is limited evidence on how best to do this, there are strong examples of collaborative and team based CPD programs that focus on the whole school leadership team. For example, Estonia's School Team Development Program is a 12-month management training program involving the school leader and two other staff members and covering different school management topics. This program serves as both a professional learning opportunity for school leaders and future leadership development for middle-level leaders.[145] Teach for Bulgaria is launching a 'Model Schools' program[146] that is aimed at supporting school teams with professional learning and development. This program will be important to examine carefully and identify areas that could be scaled up.

Governance systems for school-based management: Autonomy, accountability, and assessment

School leaders and their leadership practices in schools are shaped by the accountability and governance structures that are in place in the education system. As mentioned, Bulgaria has decentralized a high share of functions and principals have a high level of autonomy. However, the research on SBM indicates that autonomy, accountability, and assessment arrangements and tools need to work in harmony if school leaders are to improve student learning. These topics are discussed in the following paragraphs, starting with student assessment as a key means of school improvement.

Assessment and school improvement

Principals in Bulgaria are officially required to develop the school's strategic plan, monitor teacher performance, and provide support and guidance to teachers for improvement of instructional practice. However, practice shows that they rarely focus on the qualitative aspects of running the school institution (such as establishing a strong achievement-focused culture and monitoring student outcomes) due to their significant focus on administrative tasks. Although the legislative framework provides principals with freedom to plan strategically and develop school

[145] OECD 2019.

[146] https://zaednovchas.bg/en/teach-for-bulgaria-is-launching-a-new-program-to-support-school-teams/.

policies, this is not utilized enough. Based on a review of school documents publicly available on school websites, it is clear that most school strategies for development are quite similar, irrespective of the idiosyncrasies of the school. This suggests that while principals have the authority to adapt their school's strategic plan to the specific needs for improvement, they do not have incentives or capacity to do so.

School principals can also use student outcomes data for decision-making on instructional practices or teacher CPD, although in practice this is not common. In Bulgaria, principals receive annual student assessment data that compare their school's performance with regional averages. National data are available upon request, and national assessments have been standardized. However, there are concerns that the scoring scale and the relative proportion of different-type assessment questions change every year, which may render year-on-year comparisons and trend analysis inaccurate. Moreover, there is no evidence that school principals regularly use the results of these assessments to implement changes in instructional practices or guide teacher CPD.

Although RDEs and the new NIE are envisioned to support principals with school improvement efforts, principals are not accountable for school improvement. While school principals are accountable to RDEs as their employers, the focus of their accountability tends to be limited to school budget execution and compliance with legislation and regulations. In the long run, the external evaluations to be conducted by the NIE are expected to be bound to the funding provided to each kindergarten and school, but it is not clear what will be key concept and approach for this mechanism. However, in the short run, the RDEs should consider the findings of the NIE for each school in planning and implementing their work and support. The first 150–200 official school inspections were planned for the 2019/2020 school year.[147] The areas for inspection of preschools and schools are defined as the following:

- The management of the institution, including financial management; HRM; professional skills and competences of pedagogical specialists; stakeholder engagement; and physical assets management
- Education process: teaching and upbringing; evaluation of learning outcomes, taking into account the individual progress of each child; support for children with SEN; relationships between pedagogical specialists and children or students; and prevention of early school leaving. [148]

The NIE recommendations toward school management are already somewhat skill oriented. If the implementation of these recommendations is further supported by the RDEs, schools will have personalized starting points and the needed support to improve their work on key competences development.

Autonomy and accountability

Although the devolution of considerable management authority at the school level is a key principle of the education system, Bulgaria's model of decentralization in education also includes strong limitations in practice to school principals on workforce management and education service delivery. The discretion over expenditure allocation is constrained through the centrally determined framework of state educational standards, curricula, learning objectives, and rules, as explained below. For example, schools are granted the right to decide on the number of students and to set their admission criteria, which is directly related to the per-student and per-class funding they could receive. However, their admission policy is constrained by (a) centrally determined thresholds

[147] Personal interview with Anelia Andreeva, Director of the NIE (February 2020); in the previous school year, more than 80 pilot inspections were carried out. The NIE's questionnaires and methodology were somewhat improved based on these initial findings. Each inspection will last on average three days and the representatives of the NIE will do lesson observations and have focus group discussions with the school team, parents, and students.
[148] NIE, Criteria and indicators: shorturl.at/aoxMZ.

for minimum and maximum number of students per class,[149] (b) centrally imposed norms for territorial criteria and additional admission criteria,[150] (c) the state educational standard for the physical environment, and (d) the existing centrally regulated mechanism for planning enrollment in public education and the associated approach for assignment to schools based on results from high-stake exams (after grade 4 for limited schools and after grade 7 for all students).

An extensive general framework of centrally defined requirements predefines to a great extent the principal's discretion to manage the workforce at the school level, meaning that principals have less autonomy in practice. The flexibility of workforce management at preschool and school levels is strongly predefined by centralized requirements and lack of alternative pathways for entering into the teaching profession, minimum requirements for additional most often self-funded qualification for teacher promotion, hiring and firing processes influenced by collective labor agreements, set minimum thresholds for teaching hours and teacher remuneration, minimum and maximum thresholds for teacher incentives (merit pay), minimum standards for the working hours of teaching staff, and so on. In fact, all the interrelated components of HRM in education which theoretically should be managed by principals—(a) hiring and firing of staff, (b) determining of the content and scope of teacher work, (c) determining of teacher compensation based on performance indicators, (d) teacher performance evaluation, and (e) CPD (capacity building)—are subject to central government intervention and negotiations defined by the strong role of teacher unions. At the same time, it is not clear whether and how the centrally defined requirements related to workforce management are aligned with education quality provision and student outcomes at the regional, local, and school levels.

School principals' decision-making autonomy related to organization of the education process (including determining the content of teachers' work) and to decisions on the number of pedagogical staff and teacher conditions of service (workload and payment) is to a great extent predefined by centrally imposed regulations and/or the collective labor agreement. The centrally defined framework curricula determine the number of weeks of classes by class, the subjects included in the curricula, the annual number of hours for each class, and the total number of hours for the relevant stage and grade provided for each of the compulsory courses. Teacher workloads should be aligned with the centrally defined minimum standards for the working time of teaching staff.[151] According to the CLA,[152] the full-time education of students should be carried out by at least two teachers within the minimum standards for teaching working hours.[153] There are centrally defined requirements for job openings for pedagogical specialists.[154] The conditions of teacher service are also predetermined by the centrally defined minimum teacher remuneration by staff categories. The available options for principals to reward good teacher performance, and thus to motivate pedagogical staff, are also limited within strictly defined thresholds (not less than 4 percent and not more than 4.5 percent of the annual average wage.[155]

[149] Currently, minimum 16 and maximum 22 students per class for grades 1 to 4, and minimum 18 and maximum 26 students per class for grades 5 to 12.
[150] Ordinance No. 10 of September 10, 2016, for organization of the activities in school education.
[151] For example, lower and secondary teachers in Bulgarian language and literature, mathematics, foreign languages, computer sciences, and IT have to have a minimum of 648 classes per year, while physics and astronomy, chemistry, biology, history, and geography teachers have to have a minimum of 684 hours per year.
[152] Art. 41 of Collective Labor Agreement.
[153] Ordinance No. 4 of April 20, 2017, on labor standards and remuneration of labor.
[154] Ibid.
[155] Established with Ordinance No. 4 of April 20, 2017, on labor standards and remuneration of labor and the collective labor contract.

In addition to principals, trade unions play a critical role in workforce management at the school level. One peculiarity of the Bulgarian education system is the strong role of trade unions in management of the teacher workforce and related to a phenomenon known as "populist professionalism."[156] This phenomenon is related to the concept that "decision-making in education is the natural monopoly of teachers, who should have a decisive role in exercising authority and who should govern the schools in a participatory way."[157] As a result, school-based decision-making related to workforce management in Bulgaria is shaped to a large extent by the sectoral tripartite consultation mechanism, with the influential role of teacher unions. In 2018, the Union of Employers in the System of National Education in Bulgaria signed the current Collective Labor Agreement with a clear statement of disagreement on (a) the requirement established in the agreement for teacher unions' to agree officially and "approve" dismissal in cases of dismissal proposals on teachers who are members of the teacher union (Art. 10 (3) and (b) the list of components to be included in teachers' working hours (Art. 40). Despite this disagreement, these requirements were enforced and became obligatory for school principals to follow. Текстове с идентично съдържание влизат и в КТД от 08. 06. 2020 г. и в КТД от 17. 08. 2020[158], без да бъдат редактирани и/или променяни със съществуващите анекси към тези КТД. Furthermore, principals may find it difficult to dismiss consistently ineffective teachers because of relatively high litigation costs and because courts tend to overturn principals' decisions.[159] This exemplifies the limits imposed on the decision-making authority of school principals related to teacher workforce management through the influence of teacher unions.

Table 4.2. Distribution of principals' responsibilities related to workforce management and teacher-related expenditures

Area of school management	Delegation of responsibility to principal	Limitations
Determining number of staff	The principal determines the number of staff.	In accordance with approved school budget and regulations. Centrally defined minimum teaching hours per year; full-time education process is carried out by at least two teachers within the minimum standards for teaching working hours.
Hiring and firing of teaching staff	The principal signs, amends, and terminates employment contracts with pedagogical specialists and nonteaching staff.	A requirement for school level trade unions organization consent in case of terminating the employment contract imposed by Collective Labor Agreement Art. 10 (3)
Defining staff working hours	The principal is responsible for defining teacher working hours.	Centrally defined minimum standards for the working hours of teaching staff
Defining teacher salaries	The principal determines the individual salaries of staff.	A centrally defined minimum amount of teacher remuneration by staff categories with Regulation No. 4 on labor standards and remuneration of labor. The specific amounts shall be determined in accordance with the CLA and/or internal wage rules based on the annual appropriations established within the institution's approved budget. Lecture classes (classes above the minimum standard of compulsory teaching) shall be paid within centrally established limits—minimum amounts for additional payments according to the qualification level established with the Collective Labor Agreement.

[156] Radó, 2010.
[157] Ibid.
[158] Текстовете на всички Колективни трудови договори могат да бъдат достъпени на интернет страницата на Синдикат на Българските учители: http://www.sbubg.info/sbubg.php?page=54&lang=bg
[159] SABER 2013.

Area of school management	Delegation of responsibility to principal	Limitations
Establishing incentives for teaching staff	The principal determines additional remuneration for teachers for achieved results.	The funds for incentives are included in the unified cost standard per student and planned within the budget of the school and are regulated to not less than 4% and not more than 4.5% of the annual amount of average wage (established by the Collective Labor Agreement).
Supervising and evaluating teachers	The principal is responsible for evaluating teachers in schools with up to 10 teachers. In schools with more than 10 teachers, the evaluation is done by a committee appointed by the pedagogical council. Both the criteria, as well as the scale for determining level of achievement, are approved by the principal and included in appraisal forms. Additional remuneration for achieved results during the school year is distributed by the principal on the basis of evaluation results.	Centrally defined indicators and criteria for evaluation (though the pedagogical council has autonomy to select additional criteria)
Funding CPD training	The principal is responsible for planning and allocation of budget resources for teacher qualification and training. The principal is responsible for planning and financing the career development of pedagogical specialists.	In accordance with the policies and priorities set out in the strategy for school development and within (a) the annual national priorities for CPD of teachers (defined by MOES), (b) the annual regional qualification plans (developed by the RDE), and (c) qualification activities, organized by the municipality. A requirement for allocating minimum 1.2% of annual gross salaries of teachers for teacher training (a threshold set by the Collective Labor Agreement. Since January 1, 2020, a requirement for spending at least 50% of the above minimum threshold for in-house or interinstitutional qualification in formats of training and peer learning specified in the Collective Labor Agreement.
Reimbursement of costs of pedagogical staff	The principal is responsible for reimbursing the costs of pedagogical staff (transport and rent).	Centrally defined limits: (a) transportation costs should not exceed the cheapest mode of transport and (b) the maximum reimbursable amount for rent may not exceed BGN 200.
Overall budget allocation	The principal is fully responsible for allocation of delegated budget, including distribution of personnel costs and other payments, salaries and incentives, and mandatory insurance.	Transfers for targeted funding (scholarships, funds provided for nutrition assistance, and so on) should maintain their targeted nature and cannot be reallocated.

Note: Analysis based on the state educational standards and Collective Labor Agreement.

In terms of autonomy and accountability, school principals face both formal and informal constraints which limit the potential of school leadership capacity to improve learning outcomes. Some of these constraints are imposed by regulations while others relate to the incentives to act as leaders, the capacity, skills and tools available to principals, and the exposure to other types of organizational leadership models. As discussed, legislation and regulations formally constrain principals' actions in key areas, such as the number of classes and therefore the number of teachers that can be hired; the formal organizational structure and roles that can exist within the school; and the manners of handling teacher compensation, appraisal, and other HRM issues. In other areas, however,

principals have considerable discretion which is not utilized. No regulation prevents principals from applying a competence-based selection and hiring procedure, but this is not a common practice. Before the recently introduced four-year period attestation, the performance of teachers was assessed annually for allocating performance-based bonuses. However, it is rare for schools to conduct the annual appraisal linked with implementing strategic school organizational goals. School culture and climate, staff morale, and fundraising and development are all well within the scope of responsibilities of principals even before the PSSEA, but principals rarely focus on these areas.

Recommendation: Enhance school internal and external evaluation processes and strengthen link between school evaluation and principal appraisal process. To enhance school and principal accountability over learning results, as well as to provide formative development for school staff, the education system and key stakeholders (teachers, parents, and so on) need qualitative information on school improvement results and student learning outcomes from both internal and external evaluations and other assessments. This information can serve for both accountability and developmental purposes.

Slovenia provides a good example of such evaluations. Every year, schools in Slovenia conduct internal evaluations, write self-evaluation reports, and make school development programs based on the self-evaluations. An electronic tool helps the schools evaluate their performance against national benchmarks for school improvement. Other countries such as Austria, the Czech Republic, Poland, Portugal, and Sweden use the outcomes of external school evaluations either solely or as one component among other elements for appraisal of school principals.[160]

Conclusion

Effective leadership, management, and administration are necessary for the success of schools. While all important elements of principals' key roles (improving student learning, bridging policy and practice, and connecting schools with the wider community) are prescribed in legislation and relevant educational standards in Bulgaria, practice is lagging as principals' work is commonly focused on school management and administration, rather than school leadership and management. Effective leadership requires governance systems for school-based management to be aligned with capabilities, practices, and incentives for school leaders.

The government has been active in introducing crucial policy measure and interventions to advance the quality of workforce in recent years. School principals in Bulgaria are more highly educated than the EU and OECD averages, although they tend to have less formal preparation in key school leadership domains before taking up their principal positions. The defined (deputy-)principal competences are a strong step in the right direction, however, the structure and clarity of these competency standards could be improved (especially for ITE, CPD, and principal appraisal) by developing principal competences into functional and user-friendly leadership performance standards, with accompanying instruments.

In terms of autonomy and accountability, school principals face both formal and informal constraints which limit their potential to improve learning outcomes. Some of these constraints are imposed by regulations while others relate to the incentives to act as leaders, the capacity, skills and tools available to principals, and the exposure to other types of organizational leadership models.

Bulgaria has made significant policy developments related to school-based management and school-level decision making which directly affect the work of school principals. However, more attention is needed on the people who hold school leadership roles and their leadership practices to target learning at the core. Given the importance of school principals in student learning outcomes, particularly in highly decentralized systems like Bulgaria, robust

[160] OECD. 2013. *Synergies for Better Learning: An International Perspective on Evaluation and Assessment.*

selection, professional development and evaluation of school principals are equally crucial for effective school leadership.

CHAPTER 5. EU Comparators: Learning from Experience in the European Context

This chapter presents the results of the case studies on teacher policies in the three identified EU comparator countries: Estonia, Slovenia, and the Czech Republic. It presents relevant experiences and practices addressing policies on teachers and identified challenges in teacher policy context and policy goals and maps out system elements. It outlines important lessons from the experience of the three comparator countries related to the content of the identified effective teacher policies and the strategy employed for their introduction and implementation. The case studies and conclusions are based on analysis of literature, country reviews and policy documents of the three comparator countries, reactions of representatives of the ministries of education to the case studies, interviews, and additional material provided by the counterparts representing education authorities.

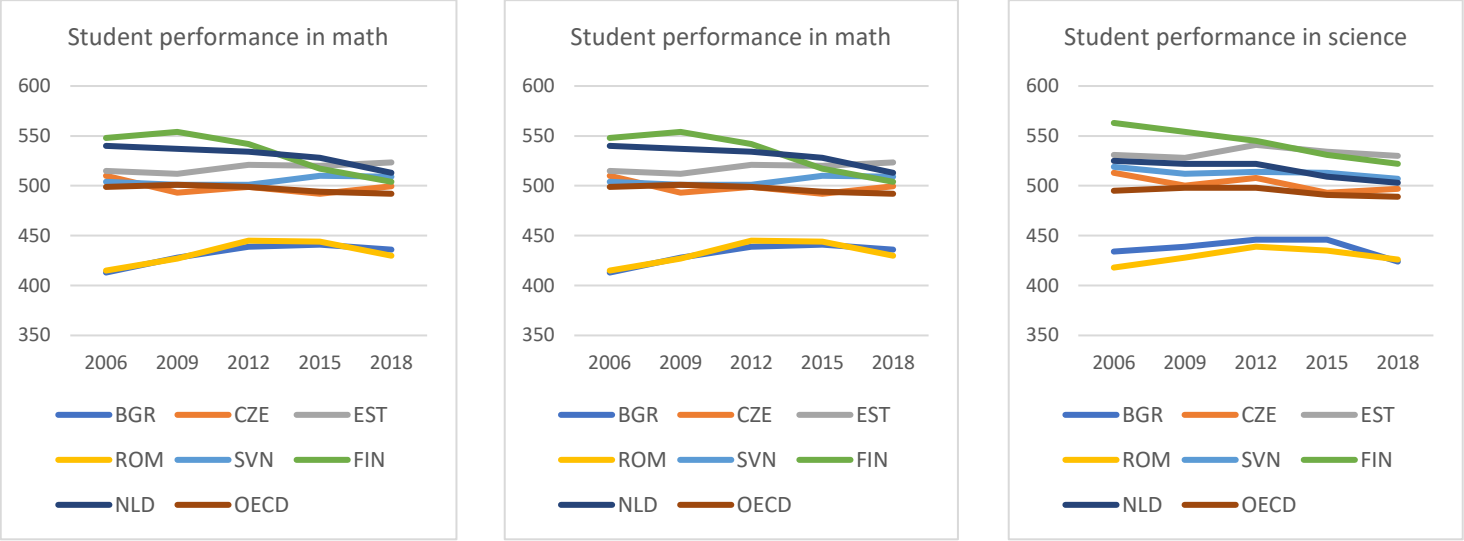
Following a request from MOES, three relevant EU member states were chosen for systemic comparison of teacher workforce policies with Bulgaria. The selection methodology of systemic country comparators was based on three criteria developed by the World Bank and approved by the TPT in March 2020. Intended to be aligned closely with Bulgaria's context and vision for education reform, the study looked into similarity of context, high and growing average student learning outcomes based on international assessments, and active and effective teacher policies on the persisting challenges Bulgaria faces. The applied analytical approach follows the Framework for Analysis to inform research and findings in line with teachers' (and school leaders') central role in boosting student performance. The selection and study methodology is also based on international evidence from EU reports, the OECD's international survey on teachers (TALIS), and the major international student assessment studies (PISA, PIRLS, and TIMMS). Detailed information on the applied methodology can be found in Annex 2.

Based on the methodology criteria, three EU countries have been selected for systematic comparison of teacher workforce policies with Bulgaria: Estonia, Slovenia, and the Czech Republic. Bulgaria shares with these countries similar school context in terms of education system structure and history: (a) modern teaching styles evolving from traditionally strong focus on theoretical and teacher centered learning and education provision characterized by large networks of providers that require optimization due to migration and demographic flows; (b) governance models in education evolved from traditionally centralized systems; (c) dynamic external enabling environment with significant policy changes reflecting public policies, economy, and public wealth; and (d) significant cohorts of teachers with ITE obtained during the period before policy reforms and political changes (socialist period) requiring systemic support for transforming from traditional teacher- and content-centered approach to a learner-centered model. All of these context variables characterize the Bulgarian education context and are relevant elements for current teacher policies goals and challenges.

While system-level similarities could be drawn, the student outcomes of the comparators outperform Bulgaria. The Czech Republic and Slovenia have a similarly segregated school system with large performance differences between schools. Estonia has a similar age teacher population with 49 percent of the teachers ages 50 and above (the same percentage as in Bulgaria). In Estonia, Slovenia, and the Czech Republic students are among the highest performers in Europe in PISA, PIRLS and TIMSS. The steady and upward trends in student results in these three countries indicate that they outperform most other EU countries in the international studies. Figure 5.1 shows that the 15-year-old Estonian, Slovenian, and Czech students have higher scores in all three subjects (math, reading, and science) measured in PISA. Even though learning outcomes are driven by many factors, above and beyond teacher policies,

Bulgaria can benefit from shared knowledge of how teacher policies in the comparator countries contributed to such high and growing learning outcomes.

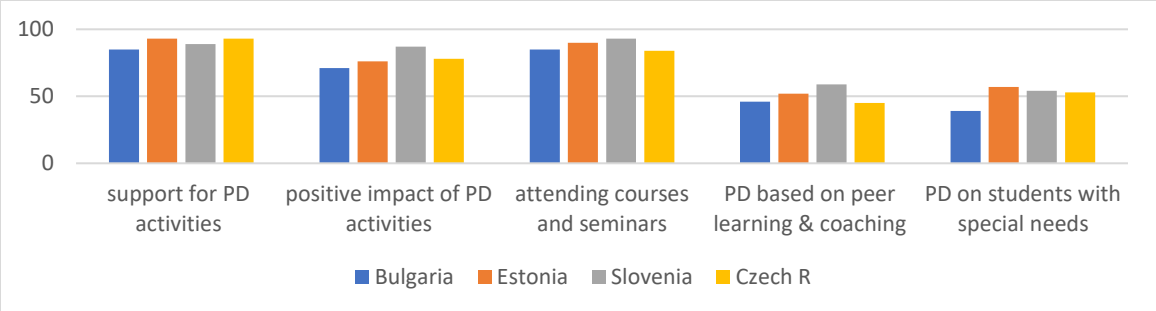
Figure 5.1. Trends in student performance in PISA - Bulgaria and other EU countries (including the three comparators)



Source: PISA 2018, OECD.

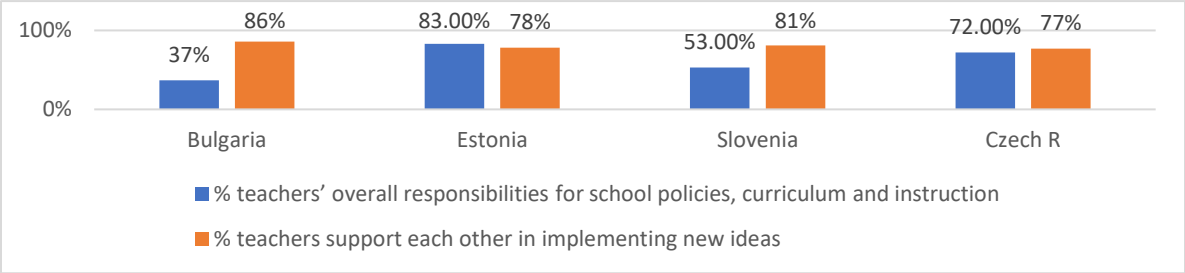
Bulgarian, Estonian, Slovenian, and Czech teachers do similar work, with the workforce profile being very similar in terms of ITE degree levels and teacher access to CPD. There are, however, differences in their experiences with CPD. Figure 5.2 shows that Bulgarian teachers are a little less satisfied with CPD than their Estonian, Slovenian, and Czech peers. The percentage of teachers who experience a positive impact of CPD activities is 71 percent in Bulgaria and 87 percent in Slovenia. And the percentage of teachers who attended CPD activities related to working with students with special needs is 39 percent in Bulgaria, compared to 57 percent in Estonia.

Figure 5.2. Teachers' views on support for professional development and impact of CPD activities in Bulgaria and the comparator countries



Source: TALIS 2018, OECD.

Figure 5.3. Teachers' views on peer support and responsibilities for school improvement in Bulgaria and the comparator countries

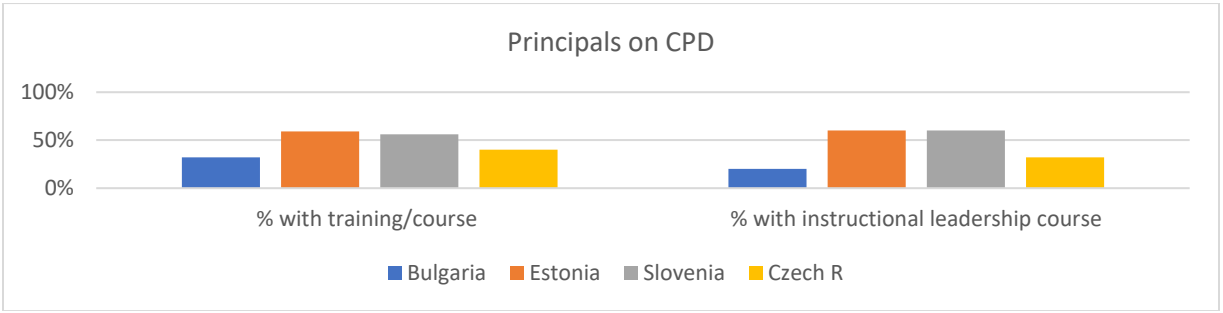


Source: TALIS 2018, OECD.

With regard to the role and engagement with school improvement policies and processes, there is also a difference between Bulgarian teachers and their peers in the comparator countries. As illustrated in Figure 5.3, in both the comparator countries and Bulgaria, almost all teachers agree that they support each other in implementing new ideas. However, there is a significant difference in their responsibilities for school improvement. Bulgarian teachers seem to be less involved in school policies, curriculum, and instruction than teachers in the comparator countries. Estonia is a strong comparator for this with 83 percent of teachers feeling overall responsibilities for school policies compared to only 37 percent in Bulgaria (TALIS 2018).

Another interesting difference with the comparator countries is the professionalization of school principals. Figure 5.4 shows that the percentage of principals with a training program or course in school management and the percentage with an instructional leadership course is much higher in Estonia and Slovenia than in Bulgaria. These are self-reported percentages but combined with the examples of policies on principals presented below in the case studies, there is clear evidence on the priority and importance the comparator countries place on policies to support the professional development of school leaders. The policy aspects addressing principals in Bulgaria discussed in the previous chapter provide insights into differences. More detailed information on these and other context characteristics can be found in Annex 5.

Figure 5.4. Percentage of principals in Bulgaria and the comparator countries with training in school management and with an instructional leadership course



Source: TALIS 2018, OECD.

This chapter describes the teacher policies and policy strategies in the three comparator countries. To get a structured and complete overview of teacher policies, the analysis is built on the OECD framework on effective teacher policies and the SABER program framework of the World Bank as a starting point.[161] These general frameworks include a list of effective policy measures on teacher policies. Based on feedback and discussions with

[161] For detailed information on the OECD and SABER frameworks, see Annex 1.

MOES at a workshop held in July 2020, five specific supplementary good practices of teacher policies of the comparator countries were added for the analysis.

- Teacher policies on *school principals in Slovenia* with training, licensing, mentoring, and rewarding with the support of the NSLE.
- The *professional development program for school principals in Estonia* with mentoring, the support of internal mentoring system, visits to other schools, and meetings with experts and practitioners.
- Policy *focus on school improvement in Slovenia* including school development teams, the encouragement of team learning and collaboration, and the networks of learning schools.
- The focus on *basic literacy skills for school improvement in the Czech Republic* to foster a shared view of quality in education and support teachers and schools to improve these skills of their pupils.
- The advantaged *career and competence models of teachers in the Czech Republic*.

The three case studies of teacher policies in Estonia, Slovenia, and the Czech Republic below present an analysis of recent policy measures guided by the quest to identify *the policy elements and developments that could inform teacher policy decisions and developments in Bulgaria*.

Teacher policies in Estonia: Quality of leadership and popularity of teaching profession with a focus on local policies

Education context

Student performance is high in Estonia with student results the highest of all EU countries. In PISA 2018, the average student results were 523 for math, 523 for reading, and 530 for science (OECD 2019). This is much higher than the OECD averages of 489, 487, and 489, respectively. For math and reading, this top performance is the result of positive trend since 2006 (with scores of 501 in reading in 2006 and 512 in math in 2009). Student performance in science has always been relatively high. Equity in education is also a strong element in Estonia. In reading, the average difference between socioeconomically advantaged and disadvantaged students is 61 score points in PISA 2018. This is much smaller than the average difference of 89 score points across OECD countries.

Estonia is a country with around 14,000 teachers in general education for a full-time equivalent of almost 12,000 teachers. Compared to other countries, the teacher workforce is relatively aged. Similar to Bulgaria, the average age of teachers in 49 years.

Almost all Estonian teachers (95 percent) have a degree in an ITE program from a university in Estonia. The remaining 5 percent has a degree in a pedagogy master program or an assessed and validated competence-based qualification.

Estonian teachers have high autonomy compared to other countries. The TALIS 2018 results show that almost all teachers (93 percent) report that they have control over determining course content which is higher than the OECD average of 84 percent. Estonian teachers also have a voice in developing the vision and goals of their schools. In TALIS 2018, 87 percent of the teachers report that their school provides staff with opportunities to actively participate in school decisions (OECD average 77 percent). School principals seem to stimulate this with 83 percent of them reporting that teachers have responsibility for the majority of the tasks related to school policies, curriculum, and instruction. This is almost twice as high as the average of OECD countries standing at 42 percent.

The autonomy of school principals is also high in Estonia. Almost all staffing decisions, such as hiring teachers, salaries, CPD of teachers, funding, and firing teachers, are made by school principals.[162] Estonian principals are also autonomous in policies on student assessment and student discipline. Principals enforce the national curriculum guidelines and are responsible for a balance between these guidelines and teachers' autonomy over curriculum and instruction.

Class size is low in Estonia with 16 or 17 pupils on average in a class in primary and lower secondary education (OECD 2016). This is among the lowest of all OECD countries. STRs are also lower than in most other countries but only in primary and lower secondary education.

Competence models and skill improvement

Competence models and professional standards are the core of teacher policies in Estonia. There are professional standards for initial and continuing education, for teaching staff and principals (Eurydice 2020). The main competencies are described as

- Supporting the learner;
- Planning of learning and teaching activities;
- Teaching;
- Professional development and reflection;
- Collaboration and instruction;
- Development, creative, and research activities;
- Supporting the learner with SEN (optional); and
- Application of digital pedagogy (optional).

Teachers use these standards in their professional development. The Ministry of Education and Research (MoER) developed an electronic self-evaluation tool for teachers in which teachers rate themselves against the teacher competences and standards. The aim of this tool is to stimulate self-assessment and self-reflection of teachers, teams, and schools and help teachers select areas for self-improvement through CPD.

Continuing professional development

There is a variety in CPD programs in Estonia, like in Bulgaria. Estonian teachers can choose training in universities, foundations established by the state, and schools. Most CPD focuses on high-level teaching skills, such as diagnosis, reflection, analyses of student needs, and assessment of the impact of teaching practices on student learning. The institutions for ITE use the teacher competences and standards in their programs.

There is a fixed amount of finances earmarked for CPD activities of Estonian teachers: between 1 and 3 percent of the equivalent of the annual gross teacher salaries is reserved for CPD activities. Two-thirds of the finances are dedicated for large teacher development programs. These programs focus on common CPD activities and national

[162] National Centre on Education and the Economy Estonia: Teacher and Principal Quality. http://ncee.org/what-we-do/center-on-international-education-benchmarking/top-performing-countries/estonia-overview/estonia-teacher-and-principal-quality/.

priorities and are mainly organized by universities. Some of these programs are co-funded by the ESF (OECD 2016). The last third of CPD finances are utilized by the school principal for teacher- and school-specific CPD activities.

CPD is an essential part of the development and professionalization of teachers in Estonia. Almost all teachers (98 percent) participated in CPD activities in the last 12 months (OECD 2019). To stimulate participation in CPD, it is the teachers' professional duty to develop their professional skills and be familiar with education innovation. Up until 2013, it was mandatory for teachers in Estonia to participate in a minimum of 160 hours of CPD over five years.

All newly appointed teachers in Estonia follow an induction program. A mentor, an experienced teacher from the same school with training in supervision, is responsible for supervision and feedback. The mentor also assists the newly appointed teacher with self-evaluation and an individual development chart.

Career development

Like in Bulgaria, CPD is linked to roles and career steps for teachers in Estonia. There is a four-step career structure for teachers in Estonia: starting teacher, teacher, senior teacher, and master teacher. There are four professional standards for teaching corresponding to these four career steps. Moving up the career ladder is only possible when teachers complete the legal requirements for professional development. The professional qualifications of teachers and staff are registered in the Estonian Education Information System (http://www.ehis.ee/). The providers of ITE and CPD activities are also in this national register.

There are advanced feedback and appraisal systems for teachers in Estonia. Most Estonian teachers use these systems and receive feedback based on classroom observations, school and classroom results, and exam results of students. About 65 percent of teachers received feedback based on at least four different methods (which is substantially higher than the OECD average of 52 percent) with only 6 percent of Estonian teachers reporting that they have never received feedback (TALIS 2018). The appraisal system in Estonia is formative, which means that it results in a professional development or training plan for 96 percent of the teachers. In the majority of schools, the formal assessments may also result in the appointment of a mentor. In the last five years, there has been an increase in positive performance incentives in Estonia. In almost all schools (82–90 percent) good performance and compliance with the standards can lead to a salary increase of a financial bonus. These percentages are much higher compared to 2013 (TALIS 2018).

Teachers can also get an official teacher certificate. The teacher certification process is voluntary and organized by the Estonian Association of Teachers. Teachers prepare a portfolio for this certification and talk about it in an interview with an appraisal committee. In this process, teachers get feedback on their own professional development. This certification process also functions as an alternative pathway to become a teacher. It is not for teachers who have an ITE degree, but it is a flexible way of entering the teaching profession.

School development and teacher policies

Estonia also introduced policies that combined school development, learning outcomes, and CPD of teachers and principals. A key instrument in these policies is the introduction of self-analysis reports of schools. These reports give not only a description and analyses of the schools but also notice areas in need of improvement and the professional development activities for the team. The government encourages schools to include experiences and opinions of all stakeholders in the analyses (learners, parents, teachers, management, and the local government).

Policy strategy

Estonia started developing teacher-focused policies in 2003. The first two strategies (the National Development Plan for Teacher Education in Estonia 2003–2010 and the Estonian Teacher Education Strategy 2009–2013) focused on teacher education.[163] The first strategy described teacher competences and the induction of newly qualified teachers while the second focused on teachers, the development of a professional support system, and the process of increasing their status in society.

In 2014, the Estonian government developed a new integrated strategic set of teacher policies, a road map for teacher policies: the Estonian Lifelong Learning Strategy 2020.[164] This integrated strategy is focused on learners and considers teachers and school principals as the key actors in learning (Eurydice 2020). The ambitions of the Lifelong Learning Strategy have a legal basis in the Basic School Act and the Upper Secondary School Act. These two acts describe the responsibilities of teachers and principals. The strategy was aligned with national ambitions but focused on the main challenges in the Estonian education system. These 14 obstacles were derived from international tests and comparisons (MoER 2014). The Lifelong Learning Strategy has been the basis for education programs and government funding in 2014–2020. This resulted in integrated, comprehensive, and focused teacher and education policies. The implementation of the strategy is the responsibility of the MoER. The MoER used the framework of the ESF program 'Competent and Motivated Teachers and Heads of Educational Institutions' for this. Partners are two competence centers at two universities: Tallinn University and the University of Tartu (Eurydice 2020).

Workforce performance to inform teacher evaluation and compensation

One of the main objectives of the Estonian Lifelong Learning Strategy 2020 was "to make the evaluation and compensation of teachers and school leaders proportional to their professional qualifications and their effectiveness in the performance of their work." The focus of this objective was on the school leader, and new policy measures included the development of associations of school leaders, competence requirements (for recruitment, feedback, and professional development), a training program for new school leaders (with selection based on open competition), and a new external assessment system for school leaders (with feedback on their performance and school results as well as suggestions for professional development).

Labor market needs inform teacher supply

A second objective of the Estonian Lifelong Learning Strategy was "to create study opportunities and career services that are of a good quality, flexible and diverse in their selection, and that also take the needs of the labor market into account, in order to increase the number of people with professional education for different age groups and regions." This included the development of a system for assessing the needs of the labor market. This system is made for forecasting, monitoring, and feedback of the needs for teachers. The system forms the basis for the development of qualifications, career counselling, curriculum development, and authorities that finance learning activities.

This second objective also included the improvement of the local and qualified workforce in education, by the introduction of motivation packages for teachers, CPD learning and retraining, and international experiences. In addition to quality improvement and evaluation, this objective aims to create a digital infrastructure and assessments of digital competences and create equal opportunities in education and lifelong learning.

[163] https://issuu.com/eduko/docs/estonian_teacher_education_strategy.
[164] https://www.hm.ee/sites/default/files/estonian_lifelong_strategy.pdf

Systems for teacher feedback

There are advanced feedback and appraisal systems for teachers in Estonia to receive feedback based on classroom observations, school and classroom results, and external student results. The appraisal system is also formative, which means that it results in a professional development or training plan for the teachers. In the majority of schools, the formal assessments might also result in the appointment of a mentor or remuneration incentives. In almost all schools, good performance and compliance with the standards can lead to a salary increase of a financial bonus.

Long-term strategy on teacher policies

The Estonian MoER developed a long-term strategy on teacher and education policies: the Estonian Lifelong Learning Strategy 2020. This long-term integrated strategy is focused on learners and considers teachers and school principals as the key actors in learning. It is aligned with national ambitions and focusses on the main challenges in education. It helps schools, principals, and teachers to focus on school improvement and the MoER to build an effective strategy for learning of teachers and principals as well as school improvement.

Challenges and constraints

One of the remaining challenges in Estonia is the recruitment and quality of principals. To deal with this challenge, a number of policy strategies are proposed in the Lifelong Learning Strategy 2020 and the new Education Development Plan 2021–2035:

- Salary increase to make principals' remuneration compatible with salaries of comparable highly educated professionals
- Competency requirements that can be used for recruitment, feedback, appraisal, and CPD of principals
- A training program for future principals
- High-quality and effective CPD training opportunities at primary, secondary, and master's levels to ensure that professional development is supported throughout their careers
- Cooperation between school principals to disseminate best evidence-based practice.

The second challenge for Estonia is the supply of teachers and the popularity of the teaching profession among young people which is in focus of the Education Development Plan 2021–2035. While this plan is under construction, the draft already sets the main challenges for Estonia in teacher policy:

- The future continuing growth of qualified teachers, their flexible and supported entry into the profession, and support for professional development throughout their careers
- Salary increase
- The introduction of school-based career models or local government-level career models, based on professional standards
- Linking of career models of teachers with salaries and CPD training opportunities at the local government level
- Enhancement of the inter- and intra-educational institution cooperation of teachers and teacher mobility to different types of educational institutions both in Estonia and abroad.

Teacher policies in Slovenia: Strong mix between school improvement, CPD, and teacher policies

Education context

Slovenia is a high-performing education system. Student results in international student assessment tests (PISA, PIRLS, and TIMSS) are above many EU countries. In PISA 2018, the 15-year-old Slovenian students surpassed the OECD average in all subjects: math 509 versus 492 OECD average, science 507 versus 488 OECD average, and reading 475 versus 472 OECD average (OECD 2019). Student results have been steadily relatively high and there are no significant shifts upward or downward over the years. Early school leaving in Slovenia is among the lowest in the EU and in 2015 the country reached the targets of the EU growth and employment strategy Europe 2020.

During the 2019/2020 school year, there were 350,602 students in preprimary, primary, and secondary education (SURS 2020a) and 11,668 preschool teachers and assistants in preschool education, 19,268 teachers in basic education, and 6,292 teachers in upper secondary education (SURS 2020b). STRs and class size are below the OECD average, with 19 students in basic education and 20 students in lower secondary education (OECD 2016e). There are also fewer teaching hours than the OECD average. At the same time, teacher salaries are average in Slovenia but below average compared to other OECD countries (OECD 2016e).

Autonomy is average in Slovenia, which means that governance of the education system is a shared responsibility between the central government and the schools (OECD 2016e). Hiring and dismissing teachers, as well as teacher appraisal, are a responsibility of school principals. Curriculum decisions and student assessment are a responsibility of the Ministry of Education, Science, and Sport (MoESS).

Initial teacher education

ITE in Slovenia takes five years, leading to acquiring a master's degree. There is a selection process of potential students to enter ITE programs. The selection criteria vary between programs based on the type of program and the number of places available. At the end of ITE programs, all graduates must pass a state professional examination (OECD 2016e).

Starting teachers enter the profession in two ways: they can either follow a traineeship (a 10-month induction program) or they can apply for open recruitment job positions where they get mentoring support. At the end of this induction period, all starting teachers have to take a state professional exam to become fully qualified teachers (OECD 2016a). With this policy measure, the Slovenian government ensures that starting teachers meet a minimum qualification level. This initial qualification level is followed by CPD as an essential part of teachers' careers. All teachers are required to have 5 days of CPD per year or 15 days over three years. The state and municipalities provide funds to cover cost of participation. If teachers take CPD activities during their regular work, they get a paid leave of absence and their travel and other costs and participation fees are reimbursed. Attending professional development activities results in acquiring points necessary for promotion.

School leadership

In the last decade, Slovenia invested in stronger instructional leadership by implementing specific policies on school principals. These policies are a combination of regulation and support. The MoESS introduced requirements and licenses and certificates for principals. The formal requirements for principals include (OECD 2016e)

- A teaching qualification;
- Five years teaching experience;

- Second promotion of the Slovenian teaching career ladder; and
- A school leader license.

To obtain a license, school principals have to follow the mandatory Headship License Program. A Headship Certificate Program is designed for CPD of principals. Both programs are organized by the NSLE in Slovenia (OECD 2016).[165] This public institution was established in 1995 to support the professional development of principals. Their activities include CPD, publishing of study material, and research. In recent years, the ESF co-funds several programs of the NSLE.

School principals are appointed by the school council for a five-year period and are evaluated every year (OECD 2016e). Instructional leadership of principals (that is, involvement in the management of curriculum and instruction) is a key factor in school improvement. Slovenian school principals report more engagement in instructional leadership than principals in other OECD countries (PISA 2015).

CPD integrated with school improvement programs

CPD and school improvement are facilitated by the Slovenian National Education Institute (NEI) which is responsible for improving (a) knowledge and achievements, (b) the results of learning, and (c) the quality of lifelong learning. This institute functions as a knowledge and policy broker for schools.[166] Specialists at the institute "prepare expert documents, develop quality education, monitor and evaluate novelties and develop good school practices with schools."[167] NEI links schools, regions, and the Slovenian MoESS (IEA 2015). It helps schools implement changes in the curriculum and introduce new teaching methods and technologies and provides specialists who offer professional counseling to schools.

The Slovenian NEI plays an important role in formal CPD of teachers and principals. The whole range of CPD activities provided by the institute—development, implementation, and assistance—is one of their main areas of work 'to encourage and support professional development'. NEI specialists develop regular CPD programs and organize national and regional study meetings, theme conferences, seminars, and e-workshop for teachers and principals. The institute also develops professional solutions and new teaching strategies and makes monographs, reference books, textbooks, syllabi, and subject-related didactics. This is done in collaboration with Slovenian teachers and international partners.

In addition to formal CPD, Slovenia invests in informal CPD. The NEI plays an important role in stimulating and organizing this informal CPD with practical policy measures. An example is the #Exploratorium providing space for creative discussions on monthly topics through social media. The #Exploratorium is "a virtual meeting point with a wall, on which a challenge or a highly topical question, content, an event, or a dilemma is highlighted. #Topics are discussed monthly, demanding a swift response from teachers."[168] Another example is the measure that experienced teachers are encouraged to present workshops at their school. Good teachers are identified and asked to teach model lessons, so that other teachers can watch these lessons and learn from the good teachers. Teachers are also encouraged to do research projects with universities and other institutions. The NEI ensures that not only their school but all schools benefit from the findings of these research projects.

[165] http://en.solazaravnatelje.si
[166] https://www.zrss.si/en/
[167] https://www.zrss.si/en/
[168] https://www.zrss.si/en/about-us/areas-of-work/

School improvement and teacher CPD are not only mixed in Slovenia but even reinforce each other. Team learning and collaboration at schools are important, both within and between Slovenian schools. Elements of this policy are supporting teams and networks and offering team training. Especially interesting are the networks of learning schools. These networks consist of six to eight schools each with a school development team that works on school improvement, meets regularly, and receives training to act as capable change agents in their school (EU 2018). There is also a system of internal and external evaluation of schools in Slovenia. Every year schools conduct internal evaluations, write self-evaluation reports, and prepare school development programs based on the self-evaluation results (OECD 2016e). An electronic tool helps the school evaluate their performance against national benchmarks for school improvement.

Policy strategy

The Organization and Financing of Education Act and the Basic School Act form the core of Slovenian education policy of compulsory schooling. These two acts include the basic principles of compulsory schooling for schools, principals, and teachers (IEA 2015). Additional decrees and procedures are introduced by the MoESS that plays an active role in teacher policies in Slovenia. The MoESS not only develops programs and provides financial support but also supervises school management. School principals are appointed by the school councils, but the formal selection is done by the MoESS based on recommendation of the school councils. The MoESS plays an active role in setting requirements for employment of teachers and standards and criteria for teaching and enrollment procedures for teachers and other employees (IEA 2015).

To raise the quality of ITE programs, Slovenia added an amendment to the Higher Education Act in 2012 which was the result of the Resolution on the National Program of Higher Education from 2011. This amendment required universities to raise the quality of their academic programs so that they respond to the needs of the labor market (OECD 2016e). The ITE programs benefitted from this amendment. In 2012, Slovenia amended the Criteria for the Accreditation of Study Programs for Initial Education of Teachers which were introduced in 2008 as standards for ITE. The amendment and the standards were part of the long-term National Program of Higher Education 2011–2020.[169] ITE programs are evaluated on a regular basis against the standards by experts of the Slovenian Quality Assurance Agency for Higher Education (NAKVIS).[170] The results of the accreditations are public and published on the NAKVIS website. Recently the regulations have been updated.

As mentioned above, the NEI plays an important role in the formation and implementation of education policy in Slovenia. The institute is the main national research, development, and consultancy agency in the field of preschool, general, and secondary education (compulsory basic education and general upper secondary education). The NEI functions as a knowledge broker that helps teachers and principals in their professionalization. It develops teaching material; develops CPD programs; organizes regional CPD activities; shares good practices; stimulates informal CPD, team learning, and school improvement; and provides counselling and consultancy for schools. The NEI also organizes regional networks of schools where schools collaborate, learn from each other, and do CPD activities together. In the regions, the NEI provides a link between the schools and MoESS (IEA 2015). The NSLE has a similar function for school principals, and there are also specialized institutes for vocational education (the Institute of the Republic of Slovenia for Vocational Education and Training) and adult education (the Slovenian Institute of Adult Education).[171]

[169] http://pisrs.si/Pis.web/pregledPredpisa?id=RESO71
[170] http://test.nakvis.si/en-GB/Content/Details/189
[171] http://www.cpi.si/ and https://www.acs.si/.

Networks of learning schools in Slovenia

An interesting example of the investment in learning and collaboration within and between schools is a 10-year reform project aimed at general upper secondary schools (OECD 2016e). This reform project aimed to *stimulate innovations of teachers and teams and sustainable change of schools*.

The Slovenian government combined different strategies in this reform policy, varying from direct regulation and promotion to CPD activities and facilitation of networks. The reform project started with a three-year pilot at 10 schools and resulted in a successful and sustainable approach involving 70 gymnasium schools and functions as an example for other schools.

This systematic approach is characteristic in a country that wants to improve its education with evidence-based and evidence-informed teacher policies and uses data to monitor and steer education.

Databases and system-level evaluation in Slovenia

Slovenia set up several databases for system-level evaluations in education and has a system-level review done by the NEI, the National Institute for VET, and the Education Research Institute.[172]

Challenges and constraints

One of the constraints is the interference of CPD activities with the regular working hours of teachers in Slovenia. Teachers do not want to miss classes, so the organization of CPD activities on weekends is encouraged. Slovenia also introduced nonteaching days to facilitate attendance of CPD activities. A second challenge in Slovenia is to organize more support and capacity building for teachers, for example, by introducing more flexibility in the organization of pedagogical work (OECD 2016e).

Another challenge in Slovenia is the educational achievement of Roma students (OECD 2016e). To address the relatively high achievement gap, between 2008 and 2015 the MoESS ran the Project for Successful Integration of Roma Students in Schools. The aim of this project was to share best practice among teachers, schools, and kindergartens. One of the policy measures introduced is appointing Roma assistants for schools and areas with many Roma students. The Roma assistant contributes to better communication between schools and Roma parents and a 'more successful cooperation between teaching assistants, teachers, and Roma parents in the education of Roma children' (OECD 2016e, 8). In addition, there have been a strategy, guidelines, and a program for integration of immigrant children.[173]

Teacher policies in the Czech Republic: Good and selective ITE programs and mandatory CPD

Education context

There are around 100,000 teachers in primary and secondary education in the Czech Republic. Class size is slightly lower in the Czech Republic compared to other countries with an average of 19.8 students in primary and 21.3 students in secondary schools (OECD 2016). This is, respectively, 1.5 and 2.2 students less than the OECD averages.

Student performance is high in the Czech Republic. The international PISA study shows that 15-year-old Czech students perform especially high in mathematics with a score of 499 (OECD average 489) and science with a score of 497 (OECD average 489) (OECD 2019).

Only 31 percent of teachers are under 40 years of age (OECD average 41 percent) (OECD 2016e). The percentage of teachers above 50 is 37 percent which is just above the OECD average but lower than in Bulgaria. A relatively low

[172] See Spotlight 4: Using data to monitor and steer education, OECD, 2016e http://www.oecd.org/slovenia/Education-Policy-Outlook-Country-Profile-Slovenia.pdf.

[173] http://www.medkulturnost.si/en/program-uspesno-vkljucevanje-otrok-priseljencev-uvop-2/.

percentage of school principals (27 percent) report shortages of qualified and well-performing teachers (OECD average 38 percent) (OECD 2019).

School autonomy is high in the Czech Republic. There are high levels of autonomy for both teachers and principals. Teachers are bound by the framework educational program and educational areas but have autonomy to decide on the specific methods, school material, and best approaches. This means that teachers can tailor their approach to the specific needs of students (OECD 2016).

Principals have high autonomy on the staffing of their schools. Recruitment of teachers is done directly by school principals, often by an open recruitment procedure (OECD 2019). School principals also decide on the career level of teachers. This decision depends on the job requirements and the qualifications of the teacher. Teacher appraisal is also the responsibility of the school principal. Teachers are evaluated by their principal, deputy principal, or the head of the subject committee (OECD 2019). Teacher appraisal is often done through interviews and classroom observations. Peer reviews are less common in the Czech Republic (OECD 2016). School principals can also dismiss teachers. About 94 percent of Czech principals report they are responsible for dismissing teachers, compared to an OECD average of 36 percent (OECD 2016).

Staff development is also a responsibility of the school principal in the Czech Republic (OECD 2016). Teachers are required by law to have lifelong learning. They have to supplement and deepen their education. The school principal organizes further education according to the further education plan. In determining this plan, the study interests, needs, and budget of the school are taken into account.

Initial teacher education

The Ministry of Education, Youth, and Sports (MoEYS) formulates key competences for all categories of pedagogical staff and specific qualification requirements for each group. These key competences are used by universities to design ITE programs curriculum and to ensure that their graduates meet the expected skill levels (OECD 2016).

Qualification-level requirements vary between different categories of teachers in the Czech Republic (Eurydice 2019). Master's degrees are required by law for primary teachers and teachers with general and technical subjects at the upper levels of secondary education. For primary teachers, this is a five-year continuous master's degree, while upper-level teachers get a bachelor's and a follow-up master's degree. ITE degrees are multisubject or single-subject (OECD 2016). There are two exceptions to these general requirements for teachers:

- For teachers teaching practical education and practical training in vocational education, professional and pedagogical education at a non-master's level is sufficient.
- Additional special pedagogical qualifications are needed for teachers of students with SEN.

The provision of ITE programs in the Czech Republic is regulated to make sure that the programs meet the Framework Requirements issued by the MoEYS. In addition, there are three teacher policy measures aimed at ensuring the quality of ITE programs, enrolled students, and ITE graduates.

Entrance exams as selection criteria for new students: Students who apply for ITE programs pass two exams: (a) a secondary school-leaving exam and (b) a university entrance exam. This entrance exam varies between institutions and often includes a general test, a subject examination (written or oral), and an interview on motivation and suitability (OECD 2016). There is often a limited number of places for ITE depending on the capacity of the institutions.

Permits and accreditation to ensure the quality of ITE programs: To ensure and increase the quality of ITE programs, the Czech MoEYS introduced regulated professional study programs, to make sure that these programs meet the requirements set out in the Framework Requirements. The MoEYS also introduced permits and accreditation for study programs. Universities get a permit based on teaching staff preparation and institutional accreditation. The MoEYS checks whether the study program meets the requirements for individual components: pedagogical-psychological propaedeutics, field component (an in-school placement of 6 to 12 weeks, IEA 2020), a didactic component, internship, and final thesis. If the program meets these requirements, the MoEYS has a positive opinion of the study program. An additional requirement is an institutional accreditation from the National Accreditation Authority. If an institution has a positive opinion and an institutional accreditation (authorization granted to a university to independently create and implement a certain type of study programs in a certain area of education), the MoEYS issues a permit for the study program.

State exams to ensure the quality of ITE graduates: To guarantee that all ITE graduates meet the standards, students sit for a state final examination before getting a master's degree (IEA 2020). The subjects covered by the state final exams and final grades are listed in the graduate certificates. Induction is part of the teacher life cycle in the Czech Republic. In TALIS 2018, 57 percent of teachers reported having some formal or informal induction at their current school (OECD 2020). This percentage is substantially higher than the OECD average of 42 percent or the Bulgarian level of 38 percent and the highest among the three comparator countries. The induction program is organized within the school. A quarter of the novice teachers have a mentor, which is also substantially higher compared to Bulgaria, the other comparator countries, and the OECD average (OECD 2019).

Career structure and competence model

There is a detailed career structure for teachers and other educational professionals in the Czech Republic. The Act on Education Staff sets out the categories of pedagogical staff and specific qualification requirements for each group.[174]

The MoEYS formulates key competences for teachers in each of the categories. These key competences are used in designing ITE programs and in the detailed career structure formalized in the Act on Education Staff. The act describes the categories of education staff as well as the career levels for each category (OECD 2016). Table 5.1 presents an example of the four levels for teachers in the Czech Republic. This career structure was developed in 2016 with EU funding support (OECD 20016) but has not yet been applied due to lack of consensus on how to use the career structure in teacher policies.

Table 5.1. Levels for teachers in the Czech Republic

	Level 1	Level 2	Level 3	Level 4
Teaching	√	√	√	√
Develop and update pedagogical information and/or student learning plans		√	√	√
Provide methodological and specialized advice to other teachers		-	√	√
Mentor and consultant other teachers				√

Source: OECD 2016.

[174] There are the following categories of pedagogical staff: kindergarten teacher, primary school teacher, primary school (grade 2) teacher, secondary school teacher, elementary art teacher, higher vocational school teacher, language teacher, teacher in further education facilities, teacher of religion, educator, pedagogue of free time, special pedagogue, psychologist, prevention methodologists in pedagogical-psychological counseling, assistant teacher, and coach.

Continuing professional development

CPD is obligatory for all categories of teaching staff. Teachers are entitled to have 12 days of CPD a year. The costs are fully or partially covered by the school (OECD 2016). As a consequence, participation in CPD programs is high with almost all teachers and principals participating in CPD activities. Short courses and workshops are the most popular CPD format, followed by a combination of peer mentoring, peer observation, and coaching. One-third of teachers participate in peer learning activities, which is higher than the OECD average. About 78 percent of teachers and principals report that CPD programs have a positive impact on their teaching (OECD 2019). The teachers who report impact of CPD activities have higher levels of self-efficacy and job satisfaction.

CPD is organized by various organizations. The quality of these institutions and programs is guaranteed by a permit and accreditation system maintained by the MoEYS (Eurydice 2019; IEA 2020). There are no nationally run CPD programs. Teachers can use the CPD programs to earn additional qualifications and unqualified teachers can use the programs to earn a formal teacher qualification.

Training and CPD for Czech school principals are less than the OECD average and similar to the figures in Bulgaria. TALIS results show that 40 percent had completed a course in school administration or a principal training (OECD average 54 percent) and only 32 percent had an instructional leadership program (OECD average 54 percent) (OECD, 2020). Current legislative framework stipulates that school principals should acquire knowledge in the field of education management with compulsory minimum of at least 100 hours within two years of taking office by completing studies for school principals. Failure to meet this condition results in dismissal. In addition, principals participate in CPD.

Policy strategy

The MoEYS develops the concept, strategy of education, and education policy. The role of the MoEYS is to

- Define compulsory components in the curriculum;
- Fund (partly) public schools;
- Oversee the school register and ensure that all students have educational opportunities;
- Provide professional development for teachers; and
- Assess the state of development of the education system (IEA 2020).

The Education Act forms the legal basis of teacher policies in the Czech Republic. The focus on students with SEN and teacher assistants was organized and formalized by an amendment in the Education Act in September 2016. Act No. 563/2004 describes the CPD requirements for teachers, including the use of up to 12 working days for professional development (IEA 2020).

There is a shared responsibility for schools between the MoEYS, Regional Education Authorities, and municipalities. The Regional Education Authorities were established between 2001 and 2003 (IEA 2020) and together with municipalities fulfill an important role in the implementation of national education policies and are responsible for administrating secondary schools and basic schools, respectively.

The focus of teacher policies in the Czech Republic has been on qualification of teachers, ITE, and CPD. Most teachers in the country are fully qualified. Teaching is a regulated profession and teachers without a master's degree can be replaced by the principal with a qualified teacher candidate. Unqualified teachers teach only by exception. This is the result of a successful previous policy strategy requiring all teachers without a master's degree to begin pedagogical education (IEA 2020). This requirement was set by law by the end of 2014 and brought about the following results:

- About 8 percent of primary school teachers and 10 percent of secondary school teachers completed the requirements for full teacher qualification in 2013–2014 (based on a national report of the Czech Inspectorate of Education, as cited in IEA 2020).
- The percentage of fully qualified teachers increased over the years with 85 percent of teachers in basic schools fully qualified in 2015 (IEA 2020), and 77 percent of secondary school teachers report that they are fully qualified (OECD 2019).

CPD for strategic ambitions

The Czech MoEYS uses CPD for strategic ambitions in education. There are two interesting examples:

(a) Teaching students with SEN: In the Czech Republic, many CPD activities focus on teaching students with SEN. In the last 12 months, 53 percent of Czech teachers reported to have followed CPD activities on teaching special needs students. This might be related to a relatively low percentage of teachers who report to have a high need for professional development activities on this topic—15 percent versus an OECD average of 22 percent (OECD 2019). Extra attention for students with SEN is also done by teacher assistants specialized in individual tutoring or education for a class of pupils with SEN (Eurydice 2019).

(b) Teaching the basic literacies: The Czech government also invested in the support of teachers to teach basic literacies (reading literacy, mathematical literacy, and digital literacy and computational thinking). To support teachers to teach these literacies, the MoEYS started a national professional development project. This project consisted of a quality view centered around student results as well as the stimulation of reflective and collaborative practice among teachers (EU 2018).

With this thematic and strategic use of CPD activities for teachers, the Czech MoEYS integrated teacher professional growth with national education ambitions.

Challenges and constraints

One of the main challenges in the Czech Republic is the attractiveness of the teaching profession. The recent raise of salaries and the career structure described above are expected to increase the attractiveness of the profession. Further steps recommended by the OECD (2016a) include

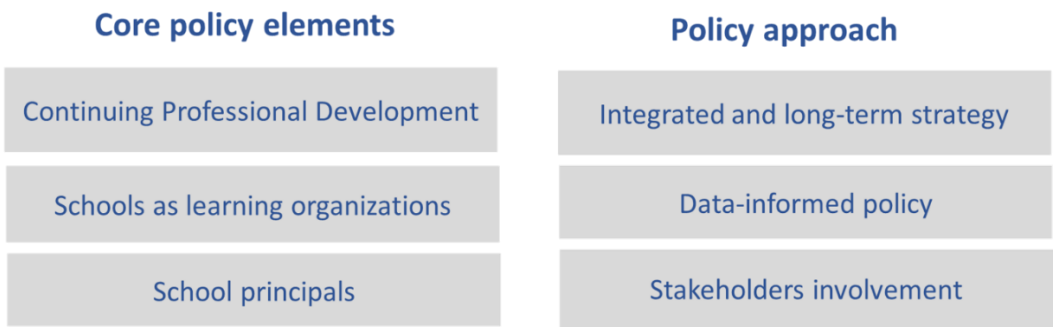
- Introducing highly selective entry pathways;
- Increasing teacher morale by making everyday work less isolating and more motivating (for example, through provision of learning opportunities, working environments, and collaborative groups); and
- Raising the selection criteria for candidates and starting teachers (for example, by a more selective ITE program entry process, standards for beginning to qualified teachers, and assessments after the first year of teaching).

The induction phase of novice teachers is seen as a new challenging policy area. This is addressed with new policy measures focused on starting teachers getting support over their first two years. There is a legal basis for this new policy.

Conclusions and discussion: Six lessons from the comparators

The successful teacher policies of the comparator countries can inspire Bulgarian teacher policies, especially because of similar educational contexts and challenges. Six lessons related to the content and strategies of teacher policies can be learned from the experience of the three systemic comparator countries. These lessons are presented together with suggested next steps that the Bulgarian MOES should consider to inform further development of teacher policies in Bulgaria. The three comparator countries developed their own variety of norms, regulations, procedures, plans, incentives, and other strategies for teachers and principals. But there are six important lessons to learn from the experience of the three countries referring to core policy elements and overall policy approach.

Figure 5.5. Important policy elements and approaches in the focus of teacher policies of comparator countries



Lesson 1. Continuing professional development: Invest in high-level CPD

All three comparator countries have strong teacher policies on CPD. The countries facilitate CPD for teachers, help organize CPD, guarantee the quality of CPD training programs, and make sure that there are proper matches between the needs of individual teachers and CPD activities.

Slovenia is a good example as it integrated CPD with school improvement. CPD and school improvement are facilitated by the Slovenian NEI. This institute is a professional organization that stimulates and facilitates formal and informal learning of teachers. It also developed practical tools for teachers and principals, such as a teacher assessment system and systems for peer learning among teachers.

Lesson 2. Schools as learning organizations: Support improvement of schools and teams

The teacher policies in all three comparator countries aim to stimulate school improvement with schools as learning organizations. This means that policy strategies focus on school improvement, including the learning of teachers, principals, and other staff members. Teacher policies in the comparator countries organize and facilitate school-level learning. Students benefit from this system and school-level learning because it results in improvement of the individual schools as well as the education system.

The key actors in schools as learning organizations are teachers and principals. The teacher policies in the comparator countries aim to help them improve the quality of education and get better results. This means that the policies focus on effective measures such as further professionalization of teachers that includes national CPD programs on effective teaching and strategic issues.

Another strategy in stimulating schools as learning organizations is to facilitate peer learning. All three comparator countries organize and facilitate peer learning among teachers and principals. This means that the countries enable teachers and principals to share their experiences, promote good practices, and facilitate peer activities.

The comparator countries also stress the role of data for school improvement. The countries use school-level data for benchmarking and school improvement. Data on student results enable schools and regions to identify students who need extra support, excellent teachers, schools with high value added, improving schools, and so on. This information is used by teachers and principals to make their schools learning organizations and to improve the quality of their practices, schools, and student results. It also helps them identify effective CPD programs and HRM activities as well as good practices from schools in their region.

There is one important challenge when stimulating the use of data by teachers, principals, school boards, and policy makers. Practitioners are willing and able to share data and learn from the information. This requires an open culture in schools and regions. For Bulgaria, this could be one of the main challenges due to lack of tradition of sharing data and schools' low motivation to share data because of existing competition between schools. This may be addressed by organizing or stimulating the development of expertise in working with and using data for peer learning. MOES can organize or facilitate a structure where education practitioners and schools can learn from each other, good examples are shared, and peer learning is valued. In the comparator countries, this system is supported by a knowledge institution or another centralized organization that built an infrastructure for peer learning and assist in organizing and learning from data.

Estonia is an excellent example when it comes to peer learning and school improvement. This country developed a whole set of instruments, and schooling and other activities are centered around learning of teachers, principals, and schools. This results in a culture of continuous professionalization and growth. The Slovenian example of the gymnasia networks of learning schools is a more gradual approach and might be interesting to follow. This approach aimed to start the peer learning and use of data with a specific set of excelling schools. Over the years, their example is followed by other schools resulting in a new approach and strategy for all gymnasia in Slovenia.

Lesson 3. School principals: Invest in support of and professionalization of principals

The third key element of effective teacher policies in the three comparator countries is the school principal. Strong school principals are especially relevant in countries like Bulgaria with high school autonomy and large differences in school quality.[175] All three countries invested in building the capacities of school principals and the quality of their work. They extended the role of school principals accounting not only for staffing and CPD for teachers but also for school improvement. This switch requires highly qualified school principals. All comparator countries introduced competency standards, training programs, licenses, mentoring, and evaluation processes for principals. The countries also stimulated instructional leadership of principals.

The best example of teacher policies on principals comes from Slovenia. The Slovenian model has the school principal as a key actor and the Slovenian MoESS invested a lot in training, professionalization, and support of school

[175] Bulgaria and the Czech Republic have large differences between schools in student performance. This implies room for improvement for groups of schools and is an extra reason to invest in professionalization of school principals.

principals. A specific institute was founded: the National Institute for Leadership in Education. This institute plays an important role in the support and professionalization of school principals in Slovenia. It stimulates instructional leadership, organizes CPD activities for school leaders, and creates a culture where principals are evaluated. This resulted not only in better school principals in the last decade but also in better teachers, better schools, and better student results in Slovenia.

Lesson 4. Integrated and long-term strategy: Keep an underlying strategy as a basis for policy measures

Teacher policies in the three comparator countries are also characterized by their long-term vision. Estonia, Slovenia, and the Czech Republic have *long-term strategic teacher policies*. All three have at least a decade of policy programs aimed at teachers and school principals resulting in a gradual improvement of both facilities and quality of teachers and school principals over the years as well as student results. The countries started their teacher policy programs one or two decades ago. The teacher policy programs were developed over time based on new insights or needs of teachers, principals, and schools. Estonia, for example, launched focused teacher policy strategies in 2003. The current Lifelong Learning Strategy 2020 has focused over the past six years on integrated teacher policies. A similar strategy was used in Slovenia.

The teacher policy strategies of the comparator countries are not only long term but also integrated and coherent. This means that the various policy measures form a coherent set and build on and reinforce each other. Two of the comparator countries use a competence model as a basis for their integrated teacher policies. This competence model creates a common language and unified goals for all stakeholders (teachers, principals, school boards, and the education authorities). An excellent example is the model of teacher competences in the Czech Republic. These competences are the driving force of teacher professionalization and the core of the Czech teacher policy strategies.

Lesson 5. Data-informed policies: Use data to create and evaluate policy measures

Data play an important role in the development and adjustments of teacher policies in the three comparator countries. At the national level, data enable the ministries of education to develop evidence informed policies and to adjust them when the intended effects are not satisfactory either because implementation is not properly executed or because the policy measures do not work properly at (specific) schools or have unintended side effects. The comparator countries use data and information to monitor implementation of policy measures, trends in education, and good practices in the education field. It enables the ministries of education to gain new insights and design effective evidence-informed teacher policies in their countries.

The main challenge in developing a long-term teacher policy strategy is to align three conditions:

(a) A broad coalition (with representatives of teachers, principals, ITE institutions, and academia)

(b) A common fundament (for example, a competence model)

(c) Common aims for long-term strategic teacher policies.

It took the comparator countries years to organize these conditions. But having these coalitions is essential for good implementations of the teacher policy strategy.

Lesson 6. Stakeholders' involvement: Involve stakeholders in teacher policies

The sixth and last lesson is the involvement of stakeholders. In all three comparator countries, the stakeholders are a partner in the design, implementation, and evaluation of teacher policy measures. The most important stakeholders in Estonia, Slovenia, and the Czech Republic are the teacher unions, universities, and schools.

Involvement of these stakeholders guarantees that the policy measures are applicable at schools, can be implemented, and have a basic level of acceptance. An added value of the involvement of stakeholders contributes to making teacher policy strategies operational and more practical.

Recommendations for next steps for learning from the experience of comparator countries

Developing, implementing and improving teacher policies is a complex process where the selection of effective policy measures is but a first step. More challenging is the contextualization of the measures, the strategies for implementation, the evaluation and the steps for improvement. The examples and lessons from the comparator countries` experience on teacher policies are an inspiring starting point for further exploration and interaction of MOES with its EU peers to inform the process of strategizing and planning specific coherent teacher policy elements and approaches to strengthen the Bulgarian teaching workforce policy. A key next step under the current advisory work will be to organize a business exchange with representatives of the comparator countries.

The exchange with stakeholders from comparator countries is intended to (a) offer an environment for peer interactions and discussions on teacher policy topics and to contribute for diversifying MOES resources informing policy decisions and (b) to inform and support work on the next project stages and outputs – developing teacher policy program concepts (Component IV) and qualification and pedagogical monitoring methodology addressing CPD needs (Component II).

To prepare for the business exchange and integrate it to the planned work specifically on Component IV – outlining key policy steps addressing teacher policies, the World Bank team is proposing:

1. *A vision for policy approach addressing teacher policies in Bulgaria* that reflects the lessons and experience of the comparator countries. The approach is based on the international and comparators experience and is formulated as three key steps: coherence of the policy approach, mapping of policy elements and selection of priority areas for policy action packed with rigorous monitoring and evaluation tools.
2. *A list of preselected teacher policy themes* for validation by the TPT and intended to scope the forthcoming business exchange with representatives of the selected comparator countries: Estonia, Slovenia and Czech Republic. This selection will serve as an initial thematic list for the policy areas MOES and the TPT will prioritize as key steps addressing teacher policies and will inform teacher policy programs development in the next stage of the consultancy work within Component IV.

A proposal for approach addressing teaching policies in Bulgaria

Fragmented policy initiatives and measures bring fragmented results. Therefore, the first step is to identify key areas of interventions that will become the backbone of an effective teaching workforce strategy which positions learning at the heart of teaching workforce policies. The second step is intended to help identify missing elements considered cornerstones of teacher policy efforts by exploring the experience of the comparator countries and Bulgaria with the assistance of a policy measures mapping tool. The third final step is the selection and prioritization by MOES of policy themes and experience to be explored during the business exchange supported by a discussion of a list of topics proposed by the World Bank team based on the results of the study of the experience of the comparator countries in areas identified as key for strengthening Bulgarian teaching workforce policy elements, approaches and strategies.

STEP 1: Prioritizing coherence as key approach addressing teacher policies. It is essential to prioritize and further improve teacher policies consistently through coherent planned incremental steps in introducing key policy interventions. This is not only stressed upon by the comparator countries, but also evidenced in teacher policies in other EU countries. MOES should start an integrated coherent approach (strategy for development) informed by available data, stakeholder involvement and based on system level evaluations of achievements of current policy efforts while at the same time planning for gradual launch starting with 2 or 3 carefully selected priorities. This does not invalidate the importance of all identified priorities but allows the education system at all levels to focus on the proper adoption and implementation. A carefully selected teacher policy path with staged introduction of priorities spread over two-year period is more effective than trying to implement all at once. It is crucial to position learning at the heart of teaching workforce policies through identifying key areas of interventions that will become the backbone of an effective teaching workforce strategy focused around improvement of measurable learning and teaching outcomes and developed as a coherent program of interrelated measures addressing learning goals. The comparator countries experience highlights the importance of focusing the mix of policy initiatives on the overarching goal of improving learning outcomes for all students and process but also ensuring alignment between the various measures on teacher policies, as well as between the national level and the schools.

STEP 2: To review for potentially **missing elements** in the current Bulgarian teacher policy strategy against the variety of norms, regulations, procedures, plans, incentives and other strategies for teachers and principals used in the comparator countries can be done. The table below can be used to assist the review and to reflect on the current and planned teacher policies in Bulgaria in order to identify whether there are crucial norms, regulations or incentives missing in the current policy strategy. These missing elements can be quick wins in strengthening Bulgarian teacher policies. It is important to note that the table is intended to initiate also reflection on elements that may be present in Bulgarian policy initiatives but have yielded different less satisfactory results. Such elements considered cornerstones of local policy efforts can be further explored and their development informed by the experience of the comparator countries as well.

Table 5.2. Teacher policy measures in Estonia, Slovenia, and the Czech Republic

Policy measures	Estonia	Slovenia	Czech Republic
Teacher quantity			
• Alternative pathways	√		
• Planning tools	√		
Teacher quality			
• Competence models	√		√
• Selective entry to ITE	√	√	√
• State examination for starting teachers		√	
• Standards and accreditation of ITE		√	√
• Induction program (mandatory)	√	√	
• High-quality national CPD programs	√	√	√
Teacher incentives			
• CPD for career steps	√	√	√
• Mandatory CPD		√	√

• Certification for teachers	√		√
School leadership			
• Competency requirements for principals	√	√	√
• Training program for principals	√	√	√
• License for principals	√	√	
• Assessment and evaluation of principals		√	√
• Focus on instructional leadership		√	
Schools as learning organizations			
• Self-assessment and self-evaluation (tools)	√	√	
• Assistance, counselling, and consultancy	√	√	
• School-level data	√	√	√
• Learning networks		√	
System level improvement			
• Knowledge institutes	√	√	√
• Databases for evidence	√	√	√
• System-level reviews	√	√	√
• Active role of universities	√		
Policy strategy			
• Long-term teacher policy strategy	√	√	
• Strategy based on competence model	√	√	√
• Data-informed policy	√	√	√
• Stakeholders actively involved	√	√	√
• Experiments		√	

STEP 3: To explore further in detail specific thematic areas from the experience of other countries that have been identified as key for strengthening Bulgarian teaching workforce policy elements, approaches and strategies.

The peer exchange that will be facilitated within Component III of the project through interactions with the comparator countries representatives, will be based on peer discussions and learning to bring to life the lessons outlined in the case studies. The interactions with the comparators are aimed at assisting the MOES to get an insight on what from *the experiences of the comparator countries could be transferred into practical policy measures and strategies for Bulgaria*. For this exchange to be efficient and benefit Bulgarian policy development, it is crucial to focus the interactions on specific priority themes for Bulgaria that were highlighted by the analysis in the previous chapters and to explore the contextualization of policy measures, strategies for implementation, monitoring, evaluation, feedback and improvement, employed by the comparator countries when they addressed these. A list of relevant questions that can be considered for further discussion with the representatives from the education authorities of the comparator countries is suggested in Annex 2.

A list of preselected teacher policy themes for TPT validation

Given the online format of peer exchange, it is important to identify select number a key priority themes for discussion that will compose the agenda for the exchange. Four policy themes addressing priority elements for teacher policies in Bulgaria have been preselected by the World Bank team as topics for discussion with comparators during the exchange. The final list of topics of interest will be selected in collaboration with MOES under next interactions of TPT and ongoing exchanges:

- **CPD: Goal oriented continuing professional development policies**
  Lessons and possible approaches: The comparator countries developed different strategies for goal-oriented CPD. The Estonian experience is of particular interest. The 2014 roadmap for teacher policies: Estonian Lifelong Learning Strategy 2020 is focused on learners even though it targets teachers and school principals. It addresses the main challenges of the education system informed through honest review of international tests and comparisons. Teacher CPD focuses on high level teaching skills (i.e. competence-based oriented teaching and learning) like diagnosis, reflection, analyses of student needs and assessment of the impact of teaching practices on student learning. Alongside focusing on learner needs, to increase the impact of CPD programs for teachers and school teams, Estonia has introduced advanced feedback and appraisal systems for teachers providing feedback based on classroom observations, school and classroom results and exam results of students. These feed into an individual professional development plan which in part, takes into account the school development plan. CPD activities are not fully centrally planned and teachers choose the professional development activities they would like to undertake with school directors validating those choices. It is worth noting that over the past five years the mandatory requirements for CPD measured by minimum training hours has been discontinued with the objective to move to a system whereby teachers have the incentive to undertake CPD to gain the competencies needed to access the higher stages of the teaching career and perform new roles at schools.
  Why? Bulgaria has invested significant efforts and resources in CPD as one of its core teacher policy focusses but the offered policy measures and instruments are still fragmented, not well coordinated, including with policy or curriculum targets, not oriented towards measurable change in teaching and learning outcomes and not efficiently meeting context and classroom level needs. CPD is not only a central element in the policy strategies of the comparator countries, it is also seen as one of the most effective elements of their teacher policy strategies.

- **Leadership: Positioning school principals at the core of sustainable development**
  Lessons and possible approaches: The comparator countries all introduced a variety of policy measures for school principals, like training, licenses, feedback and appraisal systems and support. Most of the measure were developed with experts and knowledge institutes, of which the Slovenian National School for Leadership in Education (NSLE) is a good example. This institute stimulates instructional leadership of school principals, which means that principals also manage the instruction and curriculum at schools.
  Slovenia invested in stronger instructional leadership by implementing specific policies on school principals presenting a combination of regulation and support. To meet the introduced requirements and licenses and certificates, principals are supported by NSLE through training but also through programs for midlevel school leadership development like initial training of and mentoring for newly appointed head teachers.
  Why? Investing in school leadership for improving education quality is an emerging policy element in Bulgaria. This presents a unique opportunity to utilize the lessons learned by the comparators to inform and strategically plan initiatives to support the transformation of the role of Bulgarian principals to school and instructional

leaders. Highly qualified principals supported by extended school leadership teams are especially relevant in countries with high school autonomy like Bulgaria. Positioning leadership at the core of policy development is another key element of the effective policies of the comparator countries which invested in support for and professionalization of school principals.

- **School improvement as central aim**

  Lessons and possible approaches: Bulgaria might benefit from the Slovenian experience in supporting Networks of Learning Schools and Kindergartens – a program run by NSLE and based on the theory and practice of continuing improvement in learning communities. Specially created school development teams are formed and trained in reflection, peer support and collaborative problem solving needed to identify improvement objectives and to plan, implement and evaluate desired outcomes. Besides within the school the same learning communities approach is applied to peer exchange between schools in the network. Another valuable experience is the Estonian self-analysis report of schools developed as an instrument for school improvement. This report helps schools to analyze their strengths and weaknesses reflecting on their unique context, identify areas for improvement and describe CPD activities for the teams by a review reflecting the experiences and opinions of all stakeholders in the analyses (learners, parents, teachers, management and the local government).

  A similar approach is the Dutch school improvement approach 'Stichting Leerkracht', based on classroom observations and dialogue with stakeholders. For more information on Stichting Leerkracht please refer to Annex 1.

  Why? The consistently unsatisfactory learning outcomes in the Bulgarian education system as well as the persistent big disparities in student performance between schools require special focus on developing schools as learning organizations. This will not only allow to enhance school and principal accountability over learning results but also to provide targeted professional development, support and assessment for school management and teaching staff tackling their unique context and challenges. All three comparator countries show a strong mix between school improvement, CPD and teacher policies. The large differences in student performance between Bulgarian schools shows that there are opportunities for school improvement, that low performing schools can learn from high performing schools.

- **Targeted support at classroom level**

  Lessons and possible approaches: Competence models and professional standards are the core of teacher policies in Estonia. These standards are oriented towards high level teaching skills (i.e. competence-based oriented teaching and learning) and are used to plan formal and in-house CPD as well as teacher feedback and appraisal. All these are based on classroom observations and informed by student, classroom and school outcomes. The feedback and appraisal is formative and results in a professional development or training plan for 96% of the teachers and, if needed, in the appointment of a mentor. Good performance and compliance with the standards proven through classroom work and outcomes observation is rewarded through positive performance incentives (including a salary increase of a financial bonus).

  Why? Bulgaria has initiated the transition from content oriented to competence-based learning reflected in the reformed curricula. Bulgaria invested efforts in teacher CDP focused around the new curricula but needs to follow up with tracking of classroom implementation in order to monitor the progress, impact and persisting challenges that can inform the provision of support and supplementary CPD training. The experience of Estonia with almost all teachers reporting receiving feedback based on classroom observations provides valuable experience in utilizing such tools for formative assessment.

Other topics of interest that MOES might consider for discussions:

- Approaches to incentivize teachers to work in hard to staff schools;
- Approaches to stimulate universities to excel in delivery of ITE programs; and
- PIAAC – participation in the survey and benefits for Bulgaria;
- Teacher Unions and practices for stakeholder participation in teacher policy development, management and design;
- Negative experiences: To get a better understanding of the process of contextualization of the policy measures, implementation, re-evaluation and improvement, it will be beneficial to utilize the peer exchange interactions to discuss also the challenges and limitations that the comparator countries faced as well as activities and initiatives that turned out to be ineffective like, for example, the use of the career structures in the Czech Republic.

ANNEXES

Annex 1. Examples and Recommendations for Teacher Policy Programs and Approaches, and Basic Statistics for Bulgaria, Comparator Countries and OECD

Annex 2. Proposal for Further Questions to Inform Future Interactions of MOES with Comparator Countries Representatives

Annex 3. Program Proposal: Investment in a Longitudinal Study on Learning and Life-Long Learning Outcomes. The Flow of Students from the "School Readiness" Cohort (Springboard for School Readiness Program) in Education.

Annex 4. Leadership and Teacher Competences

Annex 5. Teaching Workforce Basic Statistics and Data

Annex 6. Analytical Framework for Teaching Workforce Policy Assessment and Recommendations

Annex 7. Methodology for Selection of Systemic Country Comparators for Teachers' Policy in Bulgaria

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