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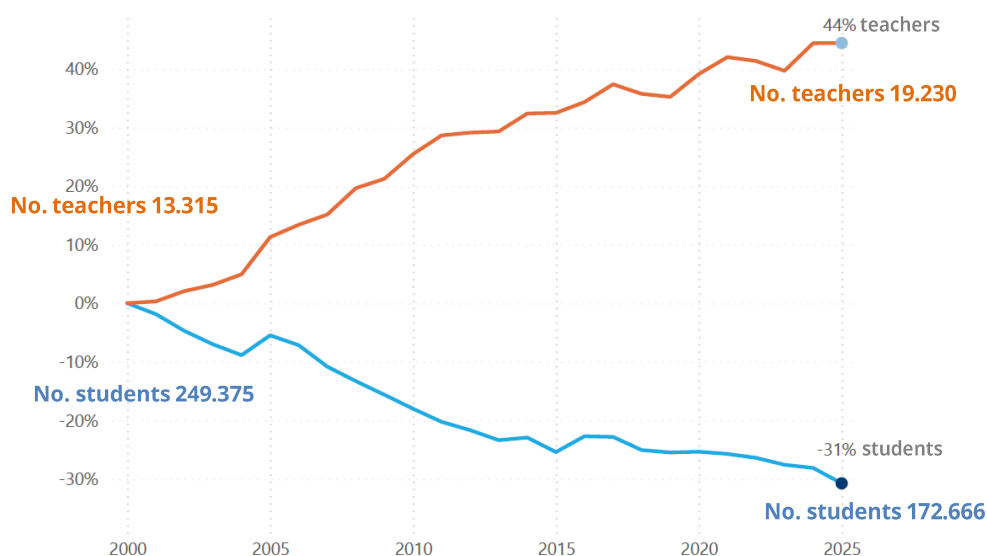
Student-Centred Staffing Policies in Primary Education

Policy Brief on the State of Teaching and Non-Teaching Staff in Primary Schools

North Macedonia's education system faces structural challenges in its teaching workforce that affect teaching quality and student outcomes. The long-term increase in teacher numbers has not been accompanied by improved student achievements. At the same time, declining birth rates and continued

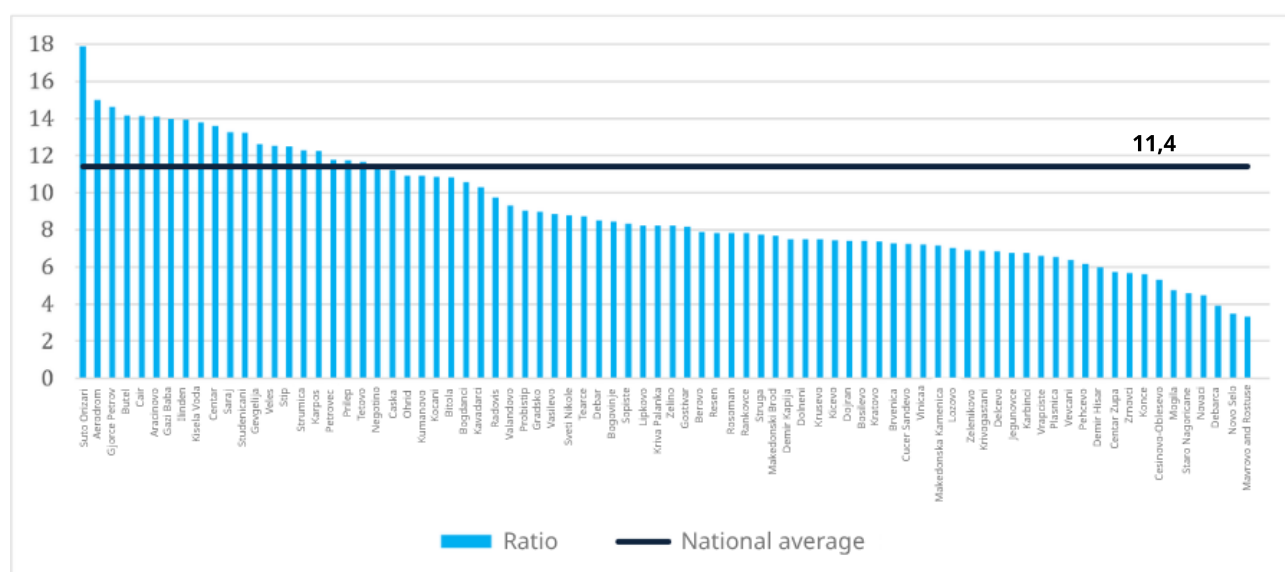
population migration have led to a steady decrease in student numbers. As shown in the graph below, between 2000 and 2025, the number of students decreased by 31%, while the number of teachers increased by more than 44%.

Graph 1: Cumulative percentage increase in teaching staff and decrease in the number of students, 2000-2025



Source: State Statistical Officeⁱ

The average teacher-student ratio, which stood at 17 students per teacher twenty-five years ago, was 11.4 students per teacher in the 2024/25 school year, lower than the average in EU Member States (13,3 students per teacherⁱⁱ).

Graph 2: Teacher-student ratio by municipality, 2024/25 school year

Source: Administrative data from the Ministry of Education and Science

In addition, expenditure on teaching and non-teaching staff salaries (around 85% of primary education block grants), leaves minimal fiscal resources for maintaining school facilities, improving conditions for teaching, teachers' professional development, and other investments needed to support quality teaching and learning. At the national level, there is a significant imbalance in the distribution of staff across primary schools.

The education system has an overall surplus of teachers alongside localized shortages in some

regions and languages of instruction, both of which affect the quality of teaching.

The age profile of the teaching workforce represents an additional risk to the stability of the education system. Average teacher age ranges from 42 to 48, and a significant number of teachers are expected to retire over the next decade. This may create shortages of qualified teachers in particular subjects and locations.



I. CONTEXT

In the 2024/25 school year, primary schools employed a total of 16.484 teachers, of whom 6.752 were classroom teachers, and 9.732 were subject teachers.

Table 1: Number of classroom teachers and subject teachers by language of instruction

	Macedonian	Albanian	Turkish	Bosnian	Serbian
Classroom teaching	4.362	2.093	262	7	28
Subject teaching	6.052	3.310	325	12	33
Total	10.414	5.403	587	19	61

Source: Administrative data from the Ministry of Education and Science

By type of employment, two thirds of teachers (11.470) were employed on permanent contracts, while nearly one third (4.934) were employed on fixed-term contracts. There were 9.732 subject teachers, compared with an estimated requirement of

7.348 based on the methodology for determining optimal teacher staffing presented in section II below. This difference represents 2.348 subject teachers above the estimated requirement. Additional roles should therefore be defined for these teachers to ensure effective use of the available workforce and support student learning.

Table 2: Number of employees in classroom and subject teaching by employment status and language of instruction

	Macedonian		Albanian		Turkish	
Employment status	Fixed-term	Permanent	Fixed-term	Permanent	Fixed-term	Permanent
Classroom teaching	858	3.504	504	1.589	81	181
Subject teaching	1.893	4.159	1.438	1.872	160	165

Source: Administrative data from the Ministry of Education and Science

Some teachers on fixed-term contracts cannot obtain permanent contracts because their qualifications do not meet the regulatory requirements. This applies to 2.918 teachers: 442 do not have the required level of education, while qualifications held by the remaining 2.476 are not among those recognized under the applicable regulations. Of this group of 2.476

teachers, 1.468 teachers have already met the requirement for more than two years of service, but their contracts cannot be transformed due to qualifications or regulatory barriers. The detailed distribution by language of instruction and type of teaching is presented in Table 3.

Table 3: Number of teachers who do not meet the requirements for transformation of their employment contracts, by type of instruction and language of instruction

Reason for inability to transform the employment contract	Total	Classroom teaching	Subject teaching	Macedonian	Albanian	Turkish	Serbian
Insufficient/inadequate level of education	442	95	347	123	272	44	3
Degree not aligned with regulatory requirements	2.476	989	1.487	924	1.331	218	3
Total	2.918	1.084	1.834	1.047	1.603	262	6

Source: Administrative data from the Ministry of Education and Science

An analysis of the employment status of non-teaching staff in primary education, including management, administrative, professional and technical staff, shows that 80% have permanent employment contracts. The remaining 20% are employed on fixed-term contracts, mainly to replace absent staff or fill temporary project-related positions. Most non-teaching staff work full-time (8 hours per day), particularly those in administrative, professional and management roles, while part-time arrangements are common in smaller schools.

The average age of teachers is 43 for subject teachers and 46 for classroom teachers, broadly in line with the European Union average of 44 years. Among teachers providing instruction in Macedonian, the highest average ages are among mathematics teachers (47 years), physics teachers (47,6 years) and chemistry teachers (47,1 years). Among teachers providing instruction in Albanian, physics teachers have the

highest average age (46,3 years). The highest average age is among natural sciences teachers providing instruction in Turkish (52,7 years).

By 2027, 1.684 teachers will be eligible for retirement, including 821 classroom teachers, and 863 subject teachers. By 2029, this number will rise to 2.254, 1.059 classroom teachers and 1.195 subject teachers. Of the teachers eligible by 2029, 1.441 provide instruction in Macedonian, 739 in Albanian, and 74 in Turkish, Serbian and Bosnian. These retirements provide an opportunity to reduce the overall staffing surplus through natural attrition. However, they may also create shortages of qualified mathematics, physics and chemistry teachers, particularly due to the low level of interest among university students in enrolling teacher-training programs in these fields. The distribution of teachers who will become eligible for retirement in the coming years, by regions, is presented in Table 4.

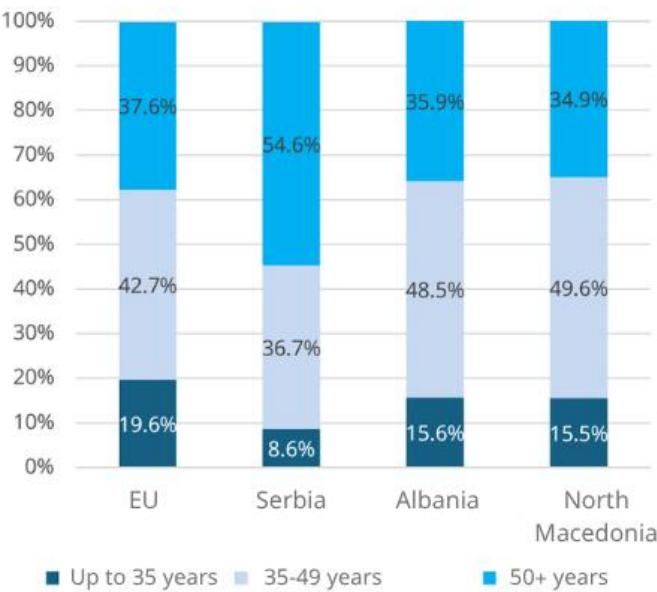
Table 4: Distribution of teachers eligible for retirement, by planning regions

	Vardar	Eastern	South-western	South-eastern	Pelagonija	Polog	North-eastern	Skopje
Retirement within the next two years								
Classroom teaching	60	77	95	87	96	125	75	206
Subject teaching	58	73	120	51	104	154	101	202
Total	118	150	215	138	200	279	176	408
Retirement within the next five years								
Classroom teaching	82	96	123	107	124	163	98	266
Subject teaching	72	103	160	85	132	224	138	281
Total	154	199	283	192	256	387	236	547

Source: Administrative data from the Ministry of Education and Science

As shown in Graph 3, the age profile of teachers in North Macedoniaⁱⁱⁱ and Albania^{iv} is broadly similar, while Serbia^v has a considerably higher proportion of teachers aged 50 and above. Compared with the EU average, North Macedonia has a smaller proportion of both teachers under 35, and teachers aged 50 and above.

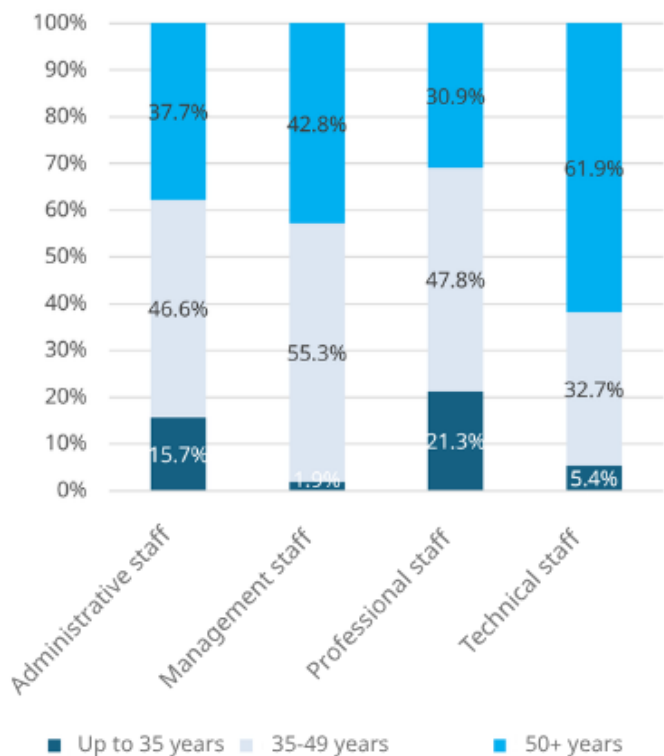
Graph 3: Teaching staff by age groups in EU and some Balkan countries



Source: Eurostat^{vi}

Non-teaching staff in primary education, including administrative, technical, professional and management staff have an average age of 48.7 years, higher than that of teachers. Technical staff have the oldest age profile, with one quarter expected to retire in the next five years. Most management, professional and administrative staff are aged 35-49.

Graph 4: Structure of non-teaching staff, by type and age groups



Source: Calculations based on administrative data from the MOES on teaching staff for 2024/25

The regional distribution based on the optimal number of teaching staff shows significant differences across regions and languages of instruction.

In the Skopje region, the situation with Macedonian language teachers indicates a shortage, primarily due to the higher number of retirements (+13, with 275 expected to retire in the next two years), while the largest shortage of Albanian-language teachers is also recorded in this region (-217). As a result of demographic decline, the Eastern region has the largest surplus of Macedonian language teachers (+268, with 168 expected to retire in the next two years). The South-eastern region also has a surplus of Macedonian language teachers (+136, with 166 expected to retire in the next two years), but retirements over the next five years could eliminate the current surplus. At the same time, the region faces a shortage of teachers in Turkish classes (-88), particularly in Radovich and Konche. In the Vardar region, there is a moderate surplus of Macedonian language teachers (+79, with 126 expected to retire in

the next two years), as well as shortage of teachers in Albanian language (–27). The Polog region has the largest surplus of Albanian language teachers (+253, with 268 expected to retire in the next two years), but retirements could substantially reduce the current surplus. In the South-western region, a significant surplus of teachers is observed in both Albanian language (+240, with 119 teachers expected to retire in the next two years) and Macedonian language (+132, with 119 teachers expected to retire in the next two years). This appears to reflect the regions' multiethnic composition and the provision of instruction in several languages across most municipalities. Additional factors include demographic decline, emigration, and the small number of students per class, particularly in rural areas. The Northeast region has a surplus of both Macedonian language teachers (+97, with 108 teachers expected to retire in the next two years) and Albanian language teachers (+157, with 92 teachers expected to retire in the next two years), particularly in Kumanovo and Lipkovo, but at the same time faces a shortage of teachers providing instruction in Serbian language (–20). In Veles, on the other hand, there is a shortage of 19 teachers in Bosnian language, representing a localized but serious problem.

The distribution of **non-teaching staff** varies consistently in municipalities. Small and rural municipalities tend to have more non-teaching staff relative to the number of teachers, because their schools are smaller and geographically dispersed. For instance, in Plasnica, the ratio is 1,5 teachers per 1 non-teaching staff member. By contrast, larger urban municipalities tend to have fewer non-teaching staff relative to the number of teachers served. In Tetovo, there is 1 non-teaching staff member per 4,3 teachers.

II. METHODOLOGICAL APPROACH FOR CALCULATING THE NUMBER OF TEACHERS

The methodology seeks to balance three objectives: ensuring quality teaching, using public resources efficiently and adapting staffing levels to demographic change. It was developed in response to declining student numbers, continued growth in teacher numbers and projected retirements, and estimates staffing requirements by subject, language of instruction, and school network. The methodology uses a model school with 27 classes and 540 students as its reference point. This type of school is the most prevalent in the school network.

Scenarios for determining the number of teachers in primary classroom education

The analysis considers two staffing scenarios for classroom teaching. The first scenario, based on a ratio of 1,3, is closest to the current staffing structure, with a minimal surplus (162 teachers), which would naturally be absorbed through retirements over the next two years. Under this scenario, an extended school day would be offered only where schools have the necessary capacity and there is sufficient parental demand.

The second scenario envisages one classroom teacher per class, with subject teachers who do not have a full teaching schedule supporting the extended school day through additional extracurricular activities. Under this scenario 1.681 classroom teachers would be above the estimated staffing requirement, creating scope to use available teaching staff more effectively while achieving budgetary savings.

Table 5: Number of classroom teachers under two different scenarios, compared with the current situation and retirements over the next five years

Scenario	Macedonian	Albanian	Turkish	Bosnian	Serbian	Total	Current number	Difference	Retirement
1,3 teachers	4.146	2.072	342	13	17	6.590	6.752	–162	1.058
1 teacher	3.190	1.594	264	10	13	5.071	6.752	–1.681	1.058

Source: Calculations based on administrative data from the MOES on teaching staff in 2024/25.

Approaches for determining the optimal number of subject teachers

The analysis shows that the total optimal number of subject teachers is 7.384, compared with 9.732 teachers actually employed in 2024/25 school year. The teaching hours for teachers of English language, physical education and natural sciences are calculated as combined total for teaching from grade I to IX. For each subject, the number of hours set in the curriculum is multiplied by the number of classes.

For example, the total number of English language lessons from grade I to IX is calculated and added together to determine the overall number of lessons. In an optimal school, this means that the total number of English language lessons is 72 lessons (2 lessons per week in grades I, II and III and 3 lessons per week from IV to IX grade, multiplied by 3 classes per grade).

Taking into account that a teacher's total teaching load of 20-23 lessons per week is prescribed by law, the total number of lessons for a particular subject is divided by 20 to determine the average number of teachers required in the school. In this specific case, this means that 3,6 teachers, or 4 English language teachers, will be required. Based on this methodology, the number of subject teachers employed exceeds the estimated optimal requirement by 2.348. The largest surplus are identified in English, mathematics, history, physical and health education, and technical education and informatics. This situation reflects both the limited adjustment of staffing levels to the declining student population, and the non-compliance with provisions of the Law on Primary Education on minimum class size.

III. RECOMMENDATIONS

Optimizing teaching and non-teaching staff in primary education in North Macedonia is a complex process that requires an integrated approach, informed by the current situation analysis, long-term trends, and lessons learnt from relevant European experiences. The recommendations arising from the Study are presented below:

1. Strategic planning and a teaching staff management system

A system is needed for timely planning and management of teaching and non-teaching staff. This requires accurate, regularly updated teachers' data in EMIS, accessible to municipalities and forecasting tools to anticipate future staffing needs by subject, language of instruction, and region. Based on these projections, municipalities and MOES should intervene in a timely manner through staff redeployment, approval of new recruitments or staff replacement. A rulebook should standardize job-position analyses to support requests for recruitments, continued funding or contract transformation, enabling comparable data and objective decision-making. In addition, this would require amendments to the Law on Primary Education, or, as an interim measure, the MOES could develop guidelines on how to conduct job-position analysis at both school and municipal level.

2. Optimization of teaching staff through natural attrition and support measures

Over the next five years, a significant number of teachers are expected to become eligible for retirement. Projected retirements provide an opportunity to reduce staffing surpluses gradually. Recruitment could be temporarily restricted in areas with demonstrated surpluses, alongside voluntary early retirement measures for teachers approaching retirement age. At the same time, five-year workforce planning by subject and municipality should be introduced, supported by continuous monitoring of retirements and staff attrition. Based on these projections, the MOES, in coordination with municipalities and universities, could introduce targeted measures such as scholarships, additional qualification and retraining opportunities and teacher

mobility. These measures should target subjects, languages of instruction and locations facing shortages, with recruitment planned in advance to ensure continuity in teaching.

Permanent positions should be approved only where staffing needs are demonstrated, including evidence that class sizes are aligned with applicable standards. The MOES should be able to use EMIS data to assess requests to convert fixed-term positions into permanent posts, while respecting the principle of decentralization.

3. Development of the legal framework and policies for greater mobility

In **Finland**, all primary and secondary education teachers are required to hold a masters' degree, that includes pedagogical, psychological and methodological training or to complete pedagogical training subsequently. High qualification standards and selective recruitment help ensure that teachers in both urban or rural areas are prepared to address diverse classroom needs and have broad pedagogical competences.

The Law on Teachers and Professional Associates and the relevant by-laws should be amended to establish transparent and equitable arrangements for staff mobility. These should cover:

- i) **horizontal mobility** including the redeployment of teachers with reduced teaching loads or identified surplus to schools within the same municipality or to other municipalities with staffing shortages;
- ii) **new student-support roles** within teachers' regular workload, such as tutors, educational assistants, or staff in support centres, joining professional support services following the necessary retraining for additional qualifications, for example as special educators and rehabilitators^{vii} or undertaking other activities that could be part of the regular teaching workload^{viii}; and
- iii) **vertical mobility** between different levels of education, subject to the required retraining or additional qualifications (for example, from primary to secondary education, or from primary to pre-school education).

4. Retraining, additional qualifications and professional development

Bulgaria began optimizing its school network in 2007 by placing schools on hold, merging schools, and redirecting students to central schools, with free student transportation provided to ensure access. To facilitate the transition, teachers were offered opportunities for retraining, additional qualifications, redeployment, or social support. The savings generated were invested in infrastructure, curricula and standards for the minimal number of students per class. In addition, teachers' salaries increased to as much as 125% of the average wage, making the teaching profession more attractive.

Given the mismatch between staffing surpluses and shortages, teachers in surplus subject areas should be able to retrain for subjects where shortages already exist or are projected. Regulations governing teaching staff should be amended to enable teachers with additional qualifications to teach another subject, with the approval of the MOES.

In partnership with universities, accredited additional qualification programmes should be developed, including dual-subject study programmes in areas facing shortages, such as mathematics and physics at the UKIM, accompanied by scholarships and financial incentives for teachers. To facilitate participation, schools could reduce the regular administrative workload while they undergo training.

In addition to retraining, continuous professional development is essential, as demonstrated by the experience in Bulgaria^x, with a particular focus on digital skills and inclusive education. Together, these measures would enable more flexible use of the existing workforce, reduce the need for new recruitment, and contribute to improving the quality of teaching over time.

5. Career development and retention of quality staff

In **Poland**, student outcomes in rural areas were lower than those in urban areas, while experienced teachers generally preferred to work in urban schools. To address this challenge, Poland introduced financial incentives enabling municipalities to provide higher allowances to teachers working in remote areas. It also introduced two-year mentoring program for new teachers in rural areas, with the aim of reducing staff turnover.

A stronger career development system could help attract and retain high-quality teachers, particularly in subjects and locations facing shortages. This would require regular public calls for teacher-mentor and teacher-advisor positions, transparent assessment of candidates by selection committees, and the awarding of titles in line with established standards. Teacher-mentors could support colleagues through mentoring, training, joint classroom practice and lesson observation.

Where there is a surplus of teachers, a teacher-mentor could be partially or fully relieved of regular teaching duties for a period of one year to focus on supporting the professional development of colleagues within the school, thereby contributing to improved teaching quality. Similarly, teacher-advisors support professional development at the regional level, working across several schools. Clear guidelines should define the responsibilities of teacher-mentors and teacher-advisors and how their working time should be organized.

For subjects where teacher shortages exist, the MOES in partnership with universities, could introduce targeted scholarships and guaranteed employment for students who complete the relevant studies, subject to commitment to remain in the position for at least five years.

6. Flexibility in the organization of teaching through a new model of extended school day and modern teaching practices

In 2023, **Croatia** introduced a full-day primary school model with an extended school day organized into modules combining regular and additional instruction with sports, cultural and creative activities. This approach provides a more balanced workload for students and individualized support, while teachers are given greater autonomy and opportunity for more flexible distribution of lessons. The model is supported by free school meals for all students and the optimal use of human resources, especially in rural areas.

The proposed extended school day model would allow teachers' time to be used more flexibly by combining regular classes with additional learning support, modular work and elective/creative activities. This approach would expand the offer of school activities, make optimal use of human resources, and provide students with richer and individually tailored learning experience. This is particularly important for schools that have previously operated in shifts or face specific challenges related to combined classes. A similar system is currently being piloted in Croatia^x.

7. Optimization of the school network and rational consolidation

In 2016, **Ukraine** launched the "New Ukrainian school" reform with the aim of optimizing the school network, introducing central ("hub") schools and satellite classes for lower grades, while satellite schools with small number of students were closed. The reform covered 500 central schools and approximately 1000 satellite units. These were supported through the procurement of school buses, investments in infrastructure, and teacher training.

Optimization of the school network is a strategic process that should be guided by nationally established criteria, while also taking local contexts

into account. One possible criterion would be to limit salary expenditure to 80% of the primary education block grant, preserving resources for school operations, maintenance and quality improvement. The MOES should continue supporting municipalities to develop school-network optimization plans. Depending on local circumstances, these measures could include merging classes, transferring students to other schools, suspending the operation of satellite schools or administratively consolidating schools. In remote or demographically vulnerable rural areas where consolidation is not feasible, the establishment of classes with fewer students than the prescribed minimum of 20 students should be permitted. For example, classes with 5-9 students could remain operational where the nearest school is at least 15 km away or where instruction is provided in a community language and no other nearby school offers instruction in that language. The municipality, as the founder should be able to approve classes below the statutory minimum only where the school meets the exceptions established by law or by-law. Legislative amendments would therefore be needed to establish and enable the implementation of these exceptions. In addition to consolidation, investment is also needed in transport, digital infrastructure to support hybrid distance learning, and alternative models such as combined classes, with teachers appropriately trained to deliver these forms of instruction.

8. Optimization of non-teaching staff

Optimization should not be limited to teachers. Rational distribution of non-teaching staff (technical, professional, administrative and management staff) is also needed, particularly in urban areas where they serve a large number of teachers and students. Municipal-level mobility arrangements should allow non-teaching staff to be redeployed between schools in response to identified staffing needs. In addition, retraining should be provided for unemployed jobseekers within the municipality who do not currently have the required qualifications but could be trained for certain categories of non-teaching positions. Measures also need to attract younger staff to positions with an ageing workforce, particularly among technical staff. Where municipalities face persistent shortages, investment in appropriate technologies and equipment could reduce demand for some technical functions in areas where recruitment is becoming increasingly difficult.

In **Norway** there are regional networks, such as the “Nordmøre Network”, that connect schools from different municipalities for joint training, resource sharing and the provision of substitute teachers. When a small school lacks a teacher, the network arranges support from another school or through a digital platform, enabling hybrid teaching and access to specialist teachers in rural areas as well.

Dialogue among all stakeholders is particularly important in processes involving school consolidation, retraining or staff redeployment.

Successful optimization of teaching and non-teaching staff will require sustained coordination among the MOES, municipalities, schools, universities and other relevant institutions. This will be essential to improve workforce planning, use of resources more efficiently, and achieve lasting improvement in education quality.

9. Regular and transparent dialogue and a partnership approach

All changes must be developed through transparent and inclusive dialogue with all stakeholders: teachers, directors, parents, students, municipalities, trade unions and ministries, as well as civil society organizations.

Endnotes

ⁱ <https://www.stat.gov.mk/PrethodniSooptstenijaOblast.aspx?id=17&rbrObl=5>

ⁱⁱ https://ec.europa.eu/eurostat/databrowser/view/educ_uoe_perp04__custom_18268678/default/table

ⁱⁱⁱ Data for 2023

^{iv} Data for 2022. All teachers whose age is not indicated, i.e. whose age is unknown, are included in the 50+ age group.

^v Data for 2020

^{vi} https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Primary_education_statistics

^{vii} <http://fzf.ukim.edu.mk/доквалификација>

^{viii} https://www.oecd.org/content/dam/oecd/en/publications/reports/2017/04/country-roads_3e5f7ba4/ea43a39d-en.pdf

^{ix} <https://www.european-agency.org/resources/publications/csm-methodology>

^x <https://mzom.gov.hr/UserDocsImages/dokumenti/Engleski/wds/PRIMARY-SCHOOL-AS-A-WHOLE-DAY-SCHOOL-Experimental-program-eng.pdf>



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