Human resources-scarcity in Hungarian public education

FINAL RESEARCH REPORT
Executive Summary in English

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Executive summary

Will there be sufficient numbers of well-prepared teachers to meet the social and educational challenges of the future? – This is a growing concern worldwide. Ensuring the supply of appropriately trained teachers and developing school infrastructure have been a constant challenge even in countries with developed economies and these issues are keenly experienced also in Hungary. In order to explore country-specific problems and possible solutions the **European Commission Representation in Hungary launched a research study in this field.** In the context of the study international and Hungarian literature was investigated, secondary analyses of the accessible international and Hungarian databases (TALIS, PIAAC, KIRstat Hungarian Public Education Information System, Hungarian Wage Survey, National Competency Assessment, and Graduates Career Tracking System) was performed, online questionnaire-based surveys were conducted among teacher students, teachers and heads of educational institutions. Teachers, school heads and various experts were also involved in interviews and focus group discussions. **The primary goal of the research project was to explore the issue of teacher supply in Hungarian public education,** but the workload and wages of teachers in public education in Hungary were also addressed in order to highlight the factors that may contribute to efficient use of labour and sustainable effectiveness in Hungarian public education.

Numerous internationally comparable data are available about Hungarian public education from different EU and OECD data sources and assessments (Eurydice, PISA, TALIS, and PIAAC). **In international comparison Hungarian teachers are underpaid and overburdened; the teaching profession is female dominated and aging; the proportion of young teachers is low.** The stress level of Hungarian teachers is the third highest after Portuguese and UK teachers (TALIS 2018), and based on the global teacher status index, the perception of Hungarian education and the prestige of the teaching profession in one of the lowest by international standards.

Teacher supply

It became clear during our research that in Hungary it is difficult to give concrete answers to teacher supply and the possible extent of teacher shortage because the data that are accessible are contradictory, and there are hardly any comprehensive analyses that address the issue, one reason being, arguably, that the presentation of a true picture of the employment of teachers could be contrary to the interests of many. It may appear from the publicly available data that there is no acute teacher shortage. While an increasing number of teaching positions advertised remain unfilled, their rate (6,000 in Q2 of 2021 according to the Central Statistical Office) compared to the total number of teachers (150,000) is not considered high despite the fact that it beats the record. Moreover, the teacher-pupils ratio (approximately 10 pupils per teacher) is definitely positive in international comparison. On the other hand, as transpired from the interviews, the quality of human resource management is poor with shortage and wastefulness present side by side. To a large extent, schools perform teaching with fixed-term teachers/lecturers, as labor management is not based on positions but on specific tasks. In the absence of transparent regulations **school districts determine the number of teaching positions allowed for each school on a casual basis,** while the rules relating to the number of compulsory teaching sessions and covering for absent colleagues are very flexible. In this system everybody follows their own strategies trying to draw on their individual networks, thus creating a veritable prisoner's dilemma, where the multitude of individual decisions results in a suboptimal situation for the community.

According to the Hungarian Public Education Information System KIR teacher supply in Hungary is highly uneven geographically. **In Northern Hungary over 10% of sessions are taught by teachers with a different specialty,** but the distribution is rather unequal: in disadvantaged schools 13% of sessions are taught by non-specialist teachers, while in non-disadvantaged school the same rate is only 2%. The online institutional questionnaire also revealed that staff turnover is also greatest in the disadvantaged regions (with 40% of the teaching staff quitting in a period of five years).

In addition, as shown by the KIR statistics and online institutional survey, there is a shortage of professionals supporting teachers' and pupils' mental health. This is particularly true for some of the SEN areas but there is also a shortage of conductive teachers and SEN assistants. Many consider that more of these professionals are needed because it is the special needs attitude that teachers are lacking which would otherwise help them respond to the needs of pupils with learning difficulties. Furthermore, there are not enough school psychologists, youth and family protection professionals and youth workers. One reason for the shortage in these areas is that **the regulatory system is not sensitive of the composition of pupils and the needs of small schools,** as these specialists are provided only in the case of a certain pupil headcount (250 or 500 pupils). In the case of small schools, in principle, the travel services provide the professionals, but this is not always the case, according to the interviews. In addition, these professionals, if present locally, can have a positive impact on the school climate and educators. Thus, it is precisely those small schools that fall out of this circle, where disadvantaged students are typically concentrated and where both the management and the teaching community would need more mental support.

Schools have created a wide range of tools to "manage" shortages in particular areas, but most of these worsen the quality of service. The methods include throwing an intern or a career starter teacher in at the deep end, assigning teaching assistants to teach, and making teachers cover non-stop for absent or missing staff (it is increasingly frequent that a pre-primary or primary school teacher spends the whole day with a group or class alone). This often leads to greatly overworked teachers who only have energy left for childminding instead of teaching and educating.

Wasteful human resource management on an individual level is most conspicuous in two areas. On one hand, **the capacities of master teachers is underused;** on the other hand, **the compulsory number of teaching sessions of teachers whose subjects are taught in fewer sessions per week is boosted by "childminding".** This wastefulness obviously generates shortages in the same areas.

The school network consisting of many small schools, crowded curriculum, and the multitude of subjects also contribute to the wastefulness of the education system. The number of teachers required in an education system is determined by the number of pupils, the structure of the school network, the amount and nature of content, and the organisation of learning (e.g. full-day school and extracurricular activities in the afternoon). Teachers' workload is affected by the number as well as the composition of pupils. Teaching a class of 30 pupils with basically non-disadvantaged backgrounds poses a totally different workload on the teacher than working with a smaller group consisting mostly of disadvantaged pupils. In this respect, **KIR statistics unveil a far from optimal correlation: in pre-primary and skills development schools the number of children per teacher is higher in areas where the proportion of disadvantaged pupils is higher.** At the same time, there is a reverse trend in other segments of public education. **In primary education the proportion of small institutions (with less than 150 pupils) is particularly high.** According to KIR statistics, 49.5% of schools fall into this category on a nationwide level. In addition, pupils with **disadvantages and multiple disadvantages are typically concentrated in schools with a smaller headcount, although regional differences are significant.**

Thus, the relatively low pupil to teacher ratio does not mean that teachers' workload is light but that the system is wasteful. It is also important to note that the usual method of calculating pupil to teacher ratio raises questions. If we take into consideration the fact that many schools also have afternoon sessions and that special needs or disadvantaged pupils require more attention, the specific value in primary schools is doubled. This method of calculation, which is more indicative of teachers' actual workload, puts Hungary above

the international average of pupil to teacher ratio. **The Hungarian system is therefore wasteful as it opts for cheap and plentiful labour instead of less but more expensive and consequently potentially higher quality labour** (see below for a summary analysis of wages).

In a longer term, the ageing and the low attractiveness of the profession for young people foreshadows a dramatic shortage of teachers. Based on KIR data, almost half of the teachers are over 50 years of age. This problem has also appeared in higher education strategy but the position is that with the expected continued drop in the number of children **the approximately 5,000 teachers retiring every year** are offset by the annual 2,500 career starters. Yet recently there has been a considerable drop in the number of applicants for teacher training and even fewer choose a teaching career after graduation, putting the envisioned 2,500 at only 1,600 in reality. The fact that the number of applicants for teacher training and afterwards that of those entering the field is extremely affected by the changes in the requirements (requirement for advanced matriculation and language examinations) suggests that there are serious quality problems in addition to the quantity.

Ageing is a problem not only in view of the future shortage of teachers. Based on KIR statistics, **institutions that are forced to employ retired teachers are less successful in attracting career starters: only one-fifth of them have career starter teachers on staff.** A combined analysis of KIR statistics and competency assessment data shows that while higher headcounts have a positive effect on pupils' performance, **the impact of larger proportions of older (and unqualified) teachers is negative.**

Teacher salaries

The interviews and online surveys point at **two main reasons why teacher students leave the profession. One is the low starting salary** (which would be below the current minimum wage if it were not for the wage supplement granted), and the other is negative experience in school practice. Teacher students are often faced with the fact that the school makes them work far more sessions than mandated by law, there is no chance for professional development and innovation, and **creative intellectual existence, which could be the attraction of the profession is missing from day-to-day teaching.**

Expectations of career starters regarding pay do not seem unreasonable. Those who would choose a teaching career mentioned most frequently **HUF 250,000 as expected gross salary** but thought they would be getting HUF 100,000 less, HUF 150,000 gross per month. The spread shows that desired salaries move between very wide limits while actual salaries expected reflect the wage scale of teachers. This also indicates that greater flexibility in compensation would be conceivable, and that a **novice teacher's grant of about 100,000 forints would be an incentive to start and stay on a teaching career.**

By international standards, the salary of Hungarian teachers is way below the earnings of tertiary-educated workers (66% compared to the OECD average of 90%) (Education at a Glance, 2020). Hungarian teachers have to teach for the longest time to reach the highest wage category (42 years as opposed to the EU21's average of 25 years).[1] In addition, the difference between the lowest and highest salary levels is strikingly big. So the Hungarian public education wage system offers low pay to career starters, higher wages can only be achieved at the end of the career or by heads of school, and the system underrates teachers compared to other degree holders (TALIS 2018, 2019).

Teachers' wages also fall behind the average wage in the national economy. Over the past four years gross salaries in education have increased less than across the economy as a whole, and the difference exceeded 10% in 2020. The introduction, in 2014, of the teacher career pathway model brought a temporary increase in wages, but once the guarantee of tying wages to the minimum wage was withdrawn, teachers' wages started to lag behind the trends experienced in the national economy. According to the wage rates survey, in 2019 the average gross salary of heads of educational institutions was HUF 503,000 per month, one and a half times higher than the average salary of teachers in non-leading positions (HUF 336,000). Men in leading positions have a significant advantage over women, having an average of HUF 622,000 in gross salary compared to women's HUF 467,000,

1 European Commission/EACEA/Eurydice (2020), pages 9 and 20

so **male school heads earn 33% more on the average than female heads.** Conversely, the difference between the wages on non-school head male and female teachers is only 3% in favour of males, which is another consequence of female dominance in the profession.

While teacher wage levels are determined primarily by age and type of institution, age, surprisingly, **educational attainment, position, type of school operator, and regional differences only explain less than half of the difference in wages.** It appears that teachers' earnings are influenced by other factors that cannot be captured by means of the above data. It is not a matter of supply and demand, because a comparison of the data with KIR-stat's pupil headcount figures does not really bring out a correlation between pupils to teacher ratio and relative earnings, so earnings do not respond to a possible surplus or shortage (at least not on a county or average level).

We found no or only a very weak correlation between wages and wage supplements, workload and innovative teaching activities. There is no significant connection between wages and actual workload, nor between wages and teaching activities that have a positive effect on the operation of the school, for instance, holding demonstration classes, participation in innovation, and mentoring of teacher students. **The system primarily remunerates activities that contribute to the system's administrative maintenance** such as heading a school, sitting on the final examination board or participation in assessment. **Wage supplements are totally detached from the specific workload; they are mainly intended as compensation for primary school teachers working with disadvantaged pupils but without any quantity or quality requirements attached.**

In the opinion of several of our interviewees the teacher career path model or the current assessment system has failed in its propagated purpose. High-quality teaching activity is unrewarded and actual workload is not compensated for. Instead, it remunerates a **traditional teacher role** that preserves the hierarchic nature of the system – a role that shies away from up-to-date and innovative activities and is not useful for the teaching community. It also rewards teachers in disadvantaged schools thereby **reinforcing the hierarchic, almost caste-like nature of the teaching community.** Departing from its original goal of the teacher career path model, the current wage system does not motivate to quality improvement, undertaking additional burdens or self-improvement as teachers have far less time for self-tuition as before. The transformation of vocational education and training currently in progress is trying to respond to the inflexibility of the existing system.

Our research depicts a hierarchic wage system that prevails in every dimension of the education system. **In some cases males are worth more than females** (see school heads' wages), **a secondary school teacher is worth more than a teacher in early childhood education** (see the strong impact of school type), **a teacher in a church-operated school is valued higher than a teacher in a state-run school** (see wage rates survey). **Added to this is the hierarchy of subjects:** a teacher of maths and physics is worth more than an art teacher. A very strong hierarchy can be plotted with male maths and physics teachers in church-run elite secondary schools at the top end, and female teachers of ISCED 1 grades in small, disadvantaged schools at the bottom. Furthermore, wages and supplements are largely determined by non-transparent factors. This means that **predictability, the one advantage of the caste-like career path model is also obliterated.**

Teachers' workload

Not only are their wages low, teachers are also overloaded. It is difficult to track teachers' real workload but the surveys applied in research studies give some indication. In addition to the statutory 26 hours (teaching sessions) per week, which is generally reduced by four hours under different titles and means 22 sessions, teachers may volunteer to teach extra sessions, and school heads can also require teachers to cover for absent colleagues as needed, or perform various tasks, for instance meal supervision or on-duty tasks. The respondent teachers undertake an average of 2.6 hours on a voluntary basis, they are required by the head to take on 1.8 hours, and occasional cover for absent staff in 4.5 hours per month. When covering involves merging groups of pupils, on the average, 1.4 hours are not accounted for as occasional cover, and another 3.1 on-duty hours are not recorded as cover or teaching sessions.

Converting the 45-minute teaching sessions to 60-minute hours, teachers in non-leadership positions have an average weekly workload of 42.48 hours. Multiplying the 2.48 extra working hours by the average hourly wage (HUF 1,850) and

expand it for a whole year and the total of 140,000 teachers, **the invisible and unpaid work of teachers amounts to approximately 35 billion forints per year.** At the same time, there are very substantial differences behind the average weekly workload **and workload is highly uneven.** Dividing the population into five groups of equal rates, the two extremes are the group with a workload of less than 33 hours, and the group having over 51 hours.

The problem is not only higher workload but the high proportion of teaching sessions within the workload. **Adding up the weekly sessions, the voluntary and mandated extra sessions and occasional covers[2], the average number of teaching sessions per week is 27. Quality teaching also requires adequate preparation and assessment of pupils. The more sessions a teacher have to teach and the more groups they teach the more this condition of quality teaching is impaired.**

Other aspects of effective employment of teachers

Effective teacher employment is also curbed by teachers' poor mobility. Only a quarter of teacher students would be willing to take up jobs far from their home (while about two-thirds would be prepared to teach disadvantages pupils). Their replies to the survey reveal that they would need an average of 50,000 forints higher salary to contemplate to move away from their home to work. Another indication of low willingness of mobility is that teaching in multiple schools exists but it is relatively rare. Pursuant to Decree No. 20 of 2012 of the Minister of Human Capacities school districts should operate a permanent cover system, i.e. they should employ teachers who are then delegated to schools where they are needed. In practice, however, the system does not work. One reason reported by the respondent is the lack of teachers, but even before the system was not viable as teachers prefer to work in one place rather than in multiple institutions.

Raising the prestige of the teaching profession is indispensable but increasing wages alone is insufficient, as has been shown by the example of Portugal. Notwithstanding increased wages and an efficient school network, the system remained centralised and overregulated. The educational administration has realized that they cannot move forward without increasing professional autonomy and they made this the main thrust of the current Portuguese educational reforms with the regulation of the curriculum as the first step.

When trying to enhance the prestige of the profession, the strong female dominance in teaching should also be taken into account besides strengthening teachers' competence and increasing their professional autonomy. Promoting the social prestige of teaching requires an overall improvement of the social recognition and appreciation of women's work. Our online survey underscored the fact that invisible work that does not appear in official statistics and therefore remains unpaid, a phenomenon conspicuous in education, is typically female work. **Hungarian education still manages to function because Hungarian women provide highly qualified and cheap labour.** But this will not be the case for long. A whole generation will suddenly retire and there is no supply on the horizon to take their place. Men have never been attracted to working as invisible low-grade workers for a pittance and low prestige, and today the prospect is not enticing for young women either.

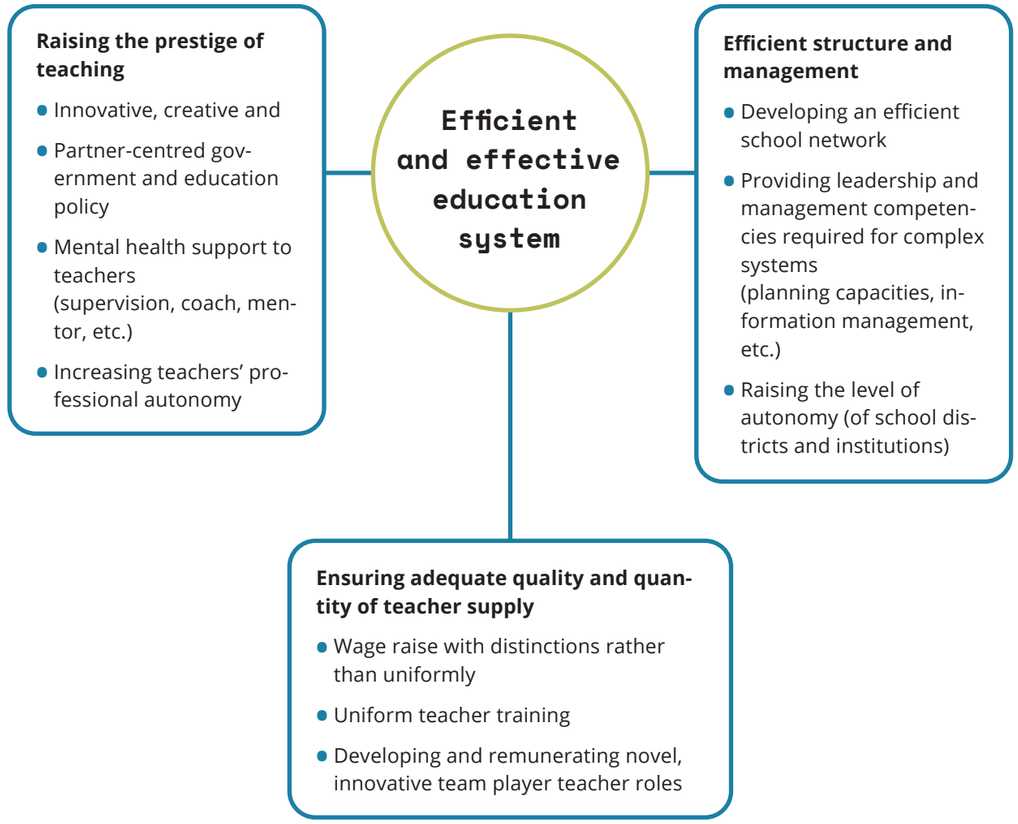
To develop an effective and efficient education system progress is needed in three areas. Firstly, it is necessary to supply adequate numbers and quality of teachers. Secondly, the current wasteful structure must be replaced by a more efficient provision of school network, and complex system management competencies are also needed. Thirdly, to raise the prestige of the teaching profession we need a partner-centred attitude, an increase of professional autonomy, and an education policy that recognizes knowledge and treats teachers as partners. It is important to stress that these elements are connected like cogwheels, and addressing an area or a few components will not solve the problems.

The following figure is a draft illustration of the complexity of education policy decision making. There will be no high-quality teachers without appropriate compensation and training. But wage increase is only possible in a sustainable and efficient structure, which also means a size efficient school

2 We multiplied the number of sessions in the weekly requirement plus the number of voluntary and mandated sessions by four, then added the number of occasional cover hours of the previous month, and divided it by four – the result was the actual weekly workload in the month preceding the survey.

structure and appropriate management competencies. Wages should attract talented young people and motivate them to quality work. This also requires professional institutions supporting the system, and professional autonomy. The essence of good governance is that these processes should not be divergent, weakening each other, but they should work in synergy. To achieve this requires a lot more knowledge, research findings, and the involvement of stakeholders. Efficient utilization of EU funds is only possible in such a carefully conceived framework system.

Figure 1. Starting point for education policy with a complex approach – draft



Proposals

To develop an efficient and effective education system simultaneous progress must be made in three areas. First of all, adequate quality and numbers of teachers must be supplied. To this end, new type of teacher roles that are the depositories of future youth and 21st century quality must be strengthened and properly remunerated. Secondly, the current wasteful structure must be eliminated and replaced by a more efficient school network provision, and competencies capable of managing a complex system must be developed. This must be done with the involvement of local stakeholders and taking account of opportunities provided by new technologies. Thirdly, raising the prestige of the teaching profession requires a partner-centred attitude, increasing professional autonomy, and an education policy that recognizes knowledge and handles teachers as partners, and relies on the findings of research that monitors the trends and processes in education.

1. Providing an appropriate quality and quantity of teacher supply

Wage increase is necessary but not in the way it has been done so far. It should primarily be targeted at young people and quality work in a more efficient structure. Wage increase is inevitable, but it should be devised to be sustainable and to serve the improvement of quality. The OECD and other opinion polls (Dolton et al., 2018) suggest that Hungary should double teachers' wages on the average but not equally across the board.

- Already the Green Paper (Green Paper, 2008) emphasized the importance of starting wages in attracting gifted youths to a teaching career. As regards compensation, career advancement in the course of time should weigh less than quality. This means that the wage curve will flatten along the career path curve. At the same time, if the quality of work so justifies, quicker ascent to relatively high echelons of the wage scale should be possible. An option to increase career starter wages is the career starter or novice teacher grant (amounting to HUF 100,000 a month). The advantage of this solution is that a grant is not wage expenditure and is less likely to cause a logjam of wages thus forcing additional wage raise.
- It is also necessary to reward teachers' innovative activities that have a positive impact on the work of their institution. This would require focusing on new teacher roles promoting the quality of teaching and learning. These roles appeared in earlier drafts of public education strategy but they were either ignored or are inadequate in their current form (for example, the five-year innovator master teacher scheme is popular but its added value is not clear as yet). A new role can be a novel researcher and developer teacher who researches their classroom practices and develops them in a scientifically sound way. To make this a reality a new doctoral degree in education could be introduced for teachers, for example, along the lines of the European EdD, which is not focused on a particular discipline but rather on practical issues arising in classroom, school or preschool practice, in institutional governance, or in curriculum development and education policy decisions. Scientifically substantiated reflection on such issues will strengthen problem-solving and innovative attitudes.

This is related to initial teacher education (ITE). Here, too, radical reforms are necessary in order to gradually dismantle the current hierarchic system.

- Those who will work in early childhood education (ISCED 0) should be offered a different type of ITE, which, however, has the same duration and prestige and the same outcome for wages as ISCED 2 teachers' initial education. Initial special education teacher training, which looks back upon long traditions, would be offered in a uniform structure with early childhood and ISCED 1 teacher education. After a common initial phase, training would branch off by type of training. SEN would bring a valuable input in early childhood and ISCED 1 teacher education by focusing on children's individual needs and devising development plans, which would be complemented by group techniques and an overall promotion of group work. Disciplines-based ITE for ISCED 2 and ISCED 3 should be unified. The unified ITE for these levels is envisioned to be shorter, and an extra year of training would qualify the teacher to teach their subjects at ISCED 2 schools. However, a shorter period of education should not mean a lowering of quality standards; therefore the content as well as the practical side of ITE must be updated. The two types of ITE, i.e. psychology, neurology and innovation-based training for earlier levels of education, and discipline-based ITE for ISCED 2 and 3 must be recognized as equal rank. This is mainly guaranteed by putting greater emphasis on modern educational methodologies, and establishing a new type of practice and research-centred doctoral programmes.
- Mentoring of student teachers and novices is crucial. It necessitates appropriate quality assurance with well-prepared partner institutions and specially qualified paid master/mentor teachers. ITE institutions should implement uniform rules in this area. ELTE University has developed a mentorship programme, which could be used as a starting point. Some components of a nationwide, quality assured mentorship programme are available. They need to be combined and strengthened using EU funds.

2. Providing complex management capacities

Management of complex systems that are prone to global impacts, such as education, requires complex knowledge. It would be worthwhile to analyse previous education policy actions and make use of the lessons from them. For instance, introduced in 1993 and modelled on its German counterpart, the Public Servants Act intended to give prestige and security to teachers but it entrenched them at a time when rapidly shrinking pupil numbers would have allowed for a quality-based differentiation. Reviving a tradition considered good, six- and eight-grade secondary schools were established at a time when every school was looking for ways to stabilise the headcount of teachers against dwindling pupil numbers, and thus strengthened the selectivity of the system. The 2002 wage increase brought no lasting improvement as the increase was wiped out by inflation. Starting from these experiences, development of complex management capacities would be supported by the following factors:

Development of a size efficient and effective school network

- A wage increase not coupled with a sustainable non-wasteful structure will soon be eroded, as has been repeatedly experienced in the past. Consequently, the wage increase should be preceded or at least accompanied by, *inter alia,* the development of an efficient school network. Creating an efficient school network has been attempted several times in Hungary in the past[3], but implementation has always failed. For example, the local mayor would be opposed, who considered it a loss of prestige, even though the local government was no longer responsible for the school. Local school heads would fear for their position,

3 "Under the current programme micro-regional associations should be supported instead of increasing normative support to small villages. Another important point is that in places where there is only a four- or six-grade school, this school should be operated as a member institution of an eight- or twelve-grade school. Those who are opposed to this are only out to protect principal's' and deputy principals' jobs. Physically, children will stay where they are, but at least they will have an English teacher, because the workload must be allocated in such a way that the member school shares the teachers they don't have locally. So it is not against the child's interest, that's for sure."
https://magyarnarancs.hu/belpol/csodalkozom_hogy_sikerult_ennyit_elerni_-_magyar_balint_lekoszono_oktatasi_miniszter-65582

teachers for their jobs, and local population would not want to mix with others, based on past negative experience. Up until now political costs or risk have always overruled the transformation of education in order to improve efficiency. Yet the example of Portugal shows that such an attempt may not be totally hopeless. It is important to draw up action plans based on the available demographic and employment data, and should be finalised in a moderated social consultation with local decision makers and local population.[4] Besides, the online study mode has brought much closer the technologies and solutions that schools can use to provide high-quality sessions even without physical movement.

- Communication with parents is also of paramount importance. Hungary can offer a positive example: transformation of the school network in Hódmezővásárhely was preceded by detailed information to parents. It is possible to go even further and involve parents in planning. Crating an efficient school network could start with pilot projects with two or three school districts and possibly using EU funds. At the first stage, plans would be drafted and approved by the community of stakeholders; this would be followed by developing the system with the help of change managers trainers and mediators, in a monitored and evaluated process. If the outcome is successful the ground breaker school districts could receive additional funding to help manage the process in other school districts.
- It would be important for teachers to be more mobile. In a quality-driven system it is unacceptable that a teacher of maths and physics should be assigned "childminding" tasks because they don't teach enough sessions of their subjects to meet the mandatory requirement instead of teaching their subjects in another school too. Teaching in several member schools could be done live online, but this requires classrooms and equipment fit for the purpose in all schools involved. Or it can be done by the teacher physically traveling between schools, for which even a service vehicle could be requested. School buses could be another solution: the students of a member school would be bussed to the other school one day a week to have sessions in the subjects that cannot be covered by local teachers. These are just ideas, and a lot more can be suggested and developed. When devising various solutions that are applicable, the important thing is to take the local context into consideration and involve the stakeholders.

Complex information management

- Another precondition is to have appropriate planning capacities at the decision levels with appropriate information and professionals who can properly process the information. Every school district should have a group or unit of statistical and economic analysis that provides forecasts of local demand of education based on the available data (demography, employment, transport, regional processes, etc.) and the related teacher capacity needed for several years ahead. Demography helps predict the expected numbers of children, the number of SEN children, the number of retiring teachers, the number of teachers currently in the system, etc. At present, neither teachers nor school heads or school districts have sufficient amount and quality of information that would be required for making optimal decisions at their respective levels. This situation reinforces the role of central control, which, distanced from the work sites and lacking specific information, cannot be as efficient as necessary. The educational databases (KIR, KRÉTA, other school district data) should be harmonised and it would be expedient to give precedence to the aspects of efficient employment of teachers. When creating data and databases suitable for administration, statistical and research purposes, the protocol of OSAP statistical databases should be implemented. Consideration should be given to setting up a professional committee composed of delegates of the Central Statistical Office, the ministries and authorities responsible for human resource management (Ministry of Human Capacities, Educational Authority, school districts, Ministry of Innovation and Technology, Ministry of Finance), and researchers.
- The purpose is to create a mechanism for the transparent monitoring of teacher employment and its financial ramifications. To this end, it is obviously necessary for schools to have a system that regulates the connection between workload and teacher demand in a feasible, predictable and transparent manner.
- In the education of leaders up-to-date information management (evaluation of research data) and strengthening emotional intelligence should play a cardinal role. Complex management knowledge transfer could be backed by international programmes and exchanges of experience for senior managers, possibly involving EU funds.
- Setting up an independent ministry of education should be contemplated, but as a minimum, the current Ministry of Human Capacities should be strengthened by a special unit for statistical and economic analysis.

The child remains in the centre of complexity

- Research invariably points out that the first years are crucial in a child's development. Today in Hungary this early stage is rather fragmented in many respects (operation, regulatory system, etc.). Whilst developing the initial education system for early childhood teachers, a uniform strategy of coordination, responsibility sharing, and information flow in early childhood education should also be created.
- Complex management also includes content regulation that takes into consideration children's needs and psychological attributes, as well as the resources available. It is important that curriculum developers and authors of textbooks should only develop products that are well-founded pedagogically, methodologically, and in terms of resources, and the introduction of these products should be preceded by a longer pilot stage. The higher the number of subjects and the more extensive their contents, the more teachers and sessions are needed – but here the limitations are obviously the number of teachers available and the load capacity of pupils.
- It is necessary for labour management to better respond to the needs of children with disadvantages or special educational needs. This requires a reconsideration of the current normative system. Allocating psychologists or SEN assistants should not be contingent on the overall number of children but the number of children with specific needs. The number of SEN assistants should be upped, and they should be delegated not only to children with special needs but also to every school where the number of disadvantaged pupils is over 10%. Furthermore, other professionals supporting the welfare of pupils should also be provided.
- In the present system, the role of teaching assistants is ambivalent. Numerous examples show that in the absence of strict quality control and regulatory limitations, the system uses teaching assistants to substitute for teachers, who are more expensive, causing severe deterioration of quality in the system. Therefore, teaching assistants should be required to have teaching assistant qualification acquired in the context of the Hungarian Vocational Qualification Register programmes, or the employment of the Roma could be specifically supported by in-service training. The employment of Roma teaching assistants could be supported from EU funds.

3. Raising the prestige of the teaching profession

Adequate wage levels and an effective structure alone are insufficient to induce positive changes in the field of teacher supply – raising the prestige of the profession is also necessary. Improvement of prestige is not guaranteed by higher wages in themselves; teachers must be respected as professionals with integrity, and this will come primarily from increasing teachers' professional autonomy.

- Increasing professional autonomy also means freedom of teaching. In Portugal the curricular reform envisions to give teachers

4 Latvia is currently undergoing a comprehensive reform to rationalise the school network.

20-30% freedom in choosing content. In Hungary, higher autonomy would mean the freedom of choosing subjects. This would help the actual development of competency areas with the involvement of students. In addition, teachers should have greater freedom in their teaching. School heads should likewise be given more autonomy so that they have a greater playing field in financial matters primarily with a view to motivating and rewarding teachers.

- Similarly, prestige will be improved if the importance of teachers' work, their high workload, the stressfulness of their work are recognized, and capacities and time are provided for case discussions, involving supervisors, coaches, mentors and psychologists. New jobs should be created that support children in need, their parents as well as teachers.
- As another step, the school inspection system should be transformed into a supportive system that is mindful of institutional development. This would promote the balance of competencies in schools and the level of institutional autonomy. In such a system schools with good performance could be given greater autonomy, first in the curriculum, and later even in using financial resources. Evaluation of schools would have multiple layers including teachers' self-assessment, institutional evaluation, National Competency Assessment and other assessment data, and the evaluation of qualified inspectors visiting schools. Launched in 2000, the Comenius programme and later he local government quality management and institutional quality management programmes (ÖMIP and IMIP) served the same purpose but without an additional inspection evaluating and promoting the development of schools. The school inspection organisation should be given an independent standing, and it should be provided with appropriate capacities of professionals. Consideration should be given to the answerability of the inspection organisation: possibly to Parliament rather than to government agencies or the Educational Authority.
- Another pillar underpinning quality assurance could be the professional support system that exists at present and functions through the pedagogical education centres. However, they are underutilised. The cooperation between ITE institutions and pedagogical education centres could promote the development of new roles for teachers by joint practice-oriented research and development activities. Projects aimed at classroom research and innovation could propel this process, possibly with the involvement of EU funds.

Human resources-scarcity in Hungarian public education

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