

DEVELOPMENT OF HUMAN CAPITAL IN BULGARIAN SCHOOLS - A CONDITION FOR AN INNOVATIVE SOCIO-CULTURAL EDUCATIONAL ENVIRONMENT

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Abstract: The systems of primary and secondary education in Bulgaria are in transition - many teachers are retiring and younger people need to successfully succeed them so that the society may develop optimally. Without well-trained human capital, the educational system would collapse and would not fulfill its intended purpose - to create well-prepared personnel to carry out the material and non-material reproduction in the future. Well-trained pedagogues can successfully transfer their knowledge to the pupils. An essential element of good pedagogical practice is the innovation, the introduction of new training and education methods aimed at improving educational outcomes and increasing critical thinking and creativity of students.

The purpose of this article is to summarize the results of a broader study on the topic of the development of human capital in Bulgarian schools for an innovative socio-cultural environment. The study examines the need for well-trained teachers to provide quality and innovative education, where this need stems from, and how to satisfy it at the present stage in the development of the Bulgarian system of primary and secondary education. The methodology includes a review of the main laws, ordinances, strategies, and other documents, related to the sphere of school education; a long-term case-study of the development of the teaching profession in Bulgaria; and a self-administered survey conducted among teachers in Blagoevgrad, Bulgaria through a closed-question questionnaire. Some of the questions had the option of allowing the respondents to provide additional information in freestyle. The questionnaire was filled by 68 respondents. The results could be summarized as follows: the shortage of qualified teachers is addressed through (1) changes that will make the teaching profession in Bulgaria once again desired by young people, incl. significant rise in starting salary; (2) by increasing the state admission in the higher education institutions in the pedagogical specialties, and (3) through changes in the direction of continuing qualification of the already operating pedagogues – with the adoption of the new Law on pre-school and school education in 2016, requirements for the continuing qualification of teachers were once again laid down at the statutory level; now school principals have dedicated funds to help them continue the training of the teachers, that are subordinate to them and teachers themselves have a statutory requirement to spend a certain number of hours in upgrading their qualification for a given evaluation period to maintain their position.

Keywords: human capital, teachers, qualification, salaries, innovations

1. INTRODUCTION

The current teachers are the main human capital of the educational system of each country. The significance of their work is determined by the fact that they educate the children who are the human capital of the future. Authors like Kicheva-Kirova & Kirov (2015), Kicheva & Kirov (2015), Kirov (2017), Kicheva (2017) write about the importance for business organizations, governments, and international institutions in the light of ongoing globalization of sustainable development of human resources through lifelong learning, training, and education.

The normal development of modern society requires a system to provide training for its members, a system, which performs three main functions: educational, educative, and developing. The educational function focuses on the acquisition of scientific knowledge by individuals as well as the formation of general and special, learning skills and habits. The educative function is aimed at the formation of worldly, moral, aesthetic, and other views, ideas, and convictions in the individuals. The developmental function is expressed in the development of cognitive abilities, mental processes, individual thinking and imagination of individuals, as well as their ability to perform their learning activities. The provision of these important functions is entrusted to the educational systems of each country, with the main burden on the educational and educative functions, being assumed by the secondary school education systems (compared to pre-school, higher, and continuing education).

The need for skilled and innovative teachers has been addressed in a number of studies by authors around the world. Haskova & Dovalova (2017) examine the professional competencies of teachers concerning their need to meet the requirements of their profession. Ng (2010) focuses on the setting of career goals for teachers related to the acquisition of professional knowledge, higher professional qualifications, and career development. Faliagka, Rigou & Sirmakessis (2016) write that teachers' efficiency depends on their academic qualifications and experience, along with their personality, the students, and the dynamics of teaching and learning. Klingebiel & Klieme (2016) view teacher qualifications as initial education of teachers and further professional development and teacher competence as a category structured into professional knowledge, beliefs, and noncognitive /motivational factors. Wagimin,

Murtini, Subarno & Sawiji (2016) state that “The development of educational technology requires teachers to update their skills and competences”. Elagina, Kolmychevskaya & Pisklakov (2017) and other studies comment on the right and obligation of teachers to increase their qualifications regularly with a view to their professional development; to know and use innovative pedagogical and information technologies. Lomnický, Predanocytova & Gadusova (2017) focus on the need for teachers to be well acquainted with the methods of self-education, research and development in teaching practice; to recognize the concept of lifelong learning; to realize career development opportunities and their relationship with planning and conducting self-development and professional growth. Son, Kwon, Jeon & Hong (2013) discuss teacher qualifications regarding the improvement of classroom practices for at-risk children. Serdenciuc (2013) commented on the need to build integrated learning experiences related to social integration and professional success. Viktorovna, Nikolaevna & Zerkina (2016) discuss the necessity of improvement of the professional and academic qualifications of teachers regarding the negative deviant behavior of individuals in the ICT-rich environment.

Without well-trained teachers, every education system would collapse and would not fulfill its intended purpose - to create well-trained personnel to carry out the material and non-material reproduction in the future. Over the last years, there has been a shortage of pedagogical specialists in Bulgaria and the qualification of the current ones has been lacking from the perspective of implementation of innovative teaching process. Changes are being made to adequately solve this problem. The objectives of this article are: (i) to ascertain the seriousness of the shortage of personnel for the secondary education system in Bulgaria; (ii) to identify key factors leading to a lack of sufficient and well-trained specialists; (iii) to look for solutions to the problem.

2. METHODOLOGY

The methodology of the study includes (i) review of the main laws, ordinances, strategies, and other documents, related to the sphere of school education, (ii) long-term case-study of the development of the teaching profession in Bulgaria (the author has worked for 20-years in the educational system, 15 of which in vocational high-school), (iii) summarization of results of a self-administered survey conducted in Blagoevgrad, Bulgaria through a closed-question questionnaire. Some of the questions had the option of allowing the respondents to provide additional information in freestyle. The target group of the survey was teachers working in schools in the city. The questionnaire was filled by 68 respondents, but not all of them gave answers to all questions, so where it is needed the number of valid responses is stated.

3. RESULTS AND DISCUSSIONS

3.1. Shortage of well-qualified teachers in the secondary education system in Bulgaria - dimensions of the problem

The system of pre-school and school education in Bulgaria is in the process of transition - a large percentage of teachers retire in the next few years and their positions must be filled by younger cadres. According to data from the Education Union of Confederation of Workers Podkrepa, about 91,000 teachers and directors are working in the system in 2018, and approximately 5,000 of them will retire by the end of it (Petrov, 2018). According to the chairwoman of the Union of Bulgarian Teachers by 2024 about 39,000 pedagogical specialists should be retired (Tzvetanova, 2017). According to data from the two unions, about 3,500 young teachers entered the system in the 2017/18 school year, compared to 800 during the 2016/17 school year, but still, there is a record-high number of working pensioners, pedagogical professionals over 60 years of age and of irregular teachers - over 7,500. The latest data from Eurostat is from 2018. Table 1 shows that there were 672 teachers in 2016, 844 teachers in 2017, raised to 1 066 teachers in 2018 in the last age group, which is above the retirement age. On the one hand, this is an indicator of a shortage of young people in the system. On the other hand, it is evidence of overcharging in school budgets as the wage-and-social-insurance-costs are considerably higher for the teachers, who are close to retirement than for the newly recruited teachers. Thirdly it also raises the question of the quality of education, as older educators in many cases do not have effective knowledge of the new computer technologies and the English language and cannot successfully apply innovative methods based on them, especially needed in current health crises, which led to online conduction of the educational process.

Table 1: Number of teachers in Bulgaria in the last 3 age groups in 2016-2018

Teachers in Year	From 55 to 59 years			From 60 to 64 years			65 years or over		
	2016	2017	2018	2016	2017	2018	2016	2017	2018
Primary education	2 758	3 203	3 645	800	1 045	1 283	89	171	188
Lower secondary education	3 572	3 520	3 348	1 609	1 738	1 880	213	251	315
Upper secondary education	4 314	4 142	4 200	2 212	2 163	2 405	370	422	563
Total	10 644	10 865	11 193	4 621	4 946	5 568	672	844	1 066

Source: Authors' calculations according to data from Eurostat (<https://ec.europa.eu/eurostat/databrowser>)

3.2. Main factors leading to lack of sufficient number and well-trained pedagogical specialists

The lack of interest in the teaching profession in the young is dictated by several factors that could be brought to the fore:

(i) Low starting salaries for a long time. Since 2000, the minimum monthly salary in schools, kindergartens, and service units has been relatively low compared to the minimum monthly salary for the country, which repelled the university graduates with higher grades. A short overview is provided in the following Table 2, with the first column indicating the State Gazette, in which the relevant regulation for the change of teachers' salaries was published. There was a significant drop in the ratio - from 2.3 in January 2000 to 1.51 in January 2007, which led to the longest strike (6 weeks) in the history of Bulgarian education following the 1989 changes. After a short increase in this ratio to 2.05 in July 2008, there was a further decline. On 31st of August 2017, this ratio was 1.43 (BGN 660 minimum monthly teacher's starting salary to BGN 460 minimum monthly salary for the country). Then the tide was turned again and now the ratio is 1.78, expecting to become 1.94 since the beginning of 2021. This significant increase in salaries though will result in a postponed increase in the number of new teachers, as it usually requires 5 years of higher education to graduate a future pedagogue.

Table 2: Starting salary of new teachers since 2000, in BGN

State Gazette (number and year)	Effective Date	Minimum monthly salary of a teacher with a Master's or Bachelor's degree	Minimum monthly salary for the country on the date	Ratio (c3/c4)
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
39/2000	01.01.2000	154	67	2,30
106/2000	01.10.2000	169	79	2,14
51/2001	01.01.2001	169	79	2,14
	01.04.2001	186	85	2,19
27/2002	01.01.2002	195	100	1,95
51/2003	01.01.2003	212	110	1,93
70/2004	01.01.2004	219	120	1,83
	01.07.2004	238	120	1,98
62/2005	01.07.2005	247	150	1,65
76/2006	01.07.2006	272	160	1,70
70/2007	01.01.2007	272	180	1,51
	01.07.2007	299	180	1,66
99/2007	01.11.2007	353	180	1,96
27/2008	01.01.2008	353	220	1,60
	01.07.2008	450	220	2,05
04/2010	01.01.2010	450	240	1,88
14/2013	01.01.2013	500	310	1,61
71/2014	01.09.2014	530	340	1,56
92/2015	01.10.2015	600	380	1,58
34/2017	01.01.2017	660	460	1,43
76/2017	01.09.2017	760	460	1,65
08/2019	01.01.2019	920	560	1,64
07/2020	01.01.2020	1085	610	1,78
*		1260	650	1,94

* - expected changes

Source: Authors' calculations according to data from the State Gazette (<https://dv.parliament.bg>), www.kik-info.com and Collective Labor Agreements 2014-2020

(ii) Serious bureaucracy in the educational system. The teaching profession in the last years, after the introduction of the new Law on Preschool and School Education and the accompanying legislation, has become worse in terms of working with documents.

(iii) Bad discipline in class, which is to a certain extent also related to the low public status of the Bulgarian teachers due to the low payment of their work.

(iv) Lack of motivation in students to study, which is related to the negative social and economic changes in the Bulgarian society, as a result of which professions requiring higher education are less paid than some requiring only secondary education.

Bulgaria is already experiencing a shortage of qualified specialists in several areas and the issue of the quality of education that is supposed to be provided for their qualification is also raised. A key element of quality education and training is the figure of the teacher. Well-trained pedagogues can successfully convey the learning material to their pupils. The issue of quality of teachers' training has been raised in the last few years, not only by school principals but also by the personnel of the Ministry of Education and Science and by university lecturers, as well as by pupils and their parents. According to some studies, incl. PISA, there is a need for continued professional qualification of pedagogical staff and insufficient participation of teachers in training courses (National Strategy for Development of Pedagogical Staff 2014-2020, 2014). According to the survey, described in the methodological part of this article, 35% of the 60 responding teachers working in schools in Blagoevgrad did not hold a Professional Qualification Degree and just 3% of them had the highest first grade.

Similarly, there is the question of innovation in the educational sphere. It is an essential element of good pedagogical practice. The introduction of new training and education methods, aimed at improving educational outcomes and raising students' critical thinking and creativity, is at the heart of modern quality education. The Commission of the European Communities (2000) set out a key message of innovation in teaching and learning. Educational and training innovations, that support the development of all learners as capable people, are a top priority in Bulgaria's National Lifelong Learning Strategy 2014-2020.

Ensuring a sufficient number of well-qualified staff for the education system, who could implement effective innovations, can be achieved through some changes in the system.

First of all, solving the problems starts with raising the status and motivation of the Bulgarian teacher, incl. (and perhaps mainly) by raising one's salary. This will attract to the system new, highly qualified staff with high potential, and will keep those of working age who are preparing to leave because of the low pay rates. As shown in the above Table 2, steps were taken in this direction, namely the rise of the starting salary to BGN 1085 in 2020, and to BGN 1260 in 2021. As a result of these changes, there is an increase in the last years in the interest of the students, applying for the quotas in the higher education majors, in which future teachers are prepared. In addition, more government-funded quotas are announced in these majors. The need to increase the quality of education in pedagogical faculties by introducing the latest achievements of the pedagogical science, so that the newly-qualified teachers know how to do their job successfully, is also present.

Secondly, it is necessary to keep increasing the qualification of teachers constantly. Under the current Law on Preschool and School Education:

(i) Pedagogical specialists are obliged to improve their qualifications in order to improve the quality of education of children and students. This must be done annually through in-school non-credit qualifications - exchange of good practices in various forms and under international and national programs, amounting to a minimum of 16 academic hours per year; and through external credit qualification - completion of training organized by external organizations (higher schools and other), held for at least 48 academic hours for each 4-year evaluation period.

(ii) Schools must draw up and implement plans for the acquisition of teacher training by hired teachers who do not have it.

(iii) The state is obliged to create conditions for the improvement of the qualification of the pedagogical specialists. For this purpose, in accordance with the norm of the State Educational Standard for the financing of institutions in the system of pre-school and school education, the resources for the teacher's qualifications are planned in the budget of each school. The minimum amount of these funds as a percentage of the Wage Fund are indicated in the Collective Labor Agreements (CLA) for the system. This percentage is currently 1.2% (changed with CLA 2018) compared to 1.0%, which was set with CLA 2016, and 0.8% previously. In addition, the National Qualification Program operates with a budget of BGN 1 100 000 for 2020, compared to BGN 850 000 for 2019, BGN 800,000 for 2018, and BGN 600,000 for 2017. These changes can definitely be praised as they are in the right direction.

(iv) Raising the qualification is one of the conditions for a teacher's career development, which in turn is associated with a pay increase. At present, senior teachers have a minimum monthly salary of BGN 1120, and the headteachers - of BGN 1176. For 2021 these amounts are expected to be BGN 1300 and BGN 1350 respectively. The possession

of a Professional Qualification Degree is remunerated at least as follows - for the fifth degree: BGN 30, fourth degree: BGN 35, third degree: BGN 50, second degree: BGN 70, first degree: BGN 90. Possession of educational and scientific degree "doctor" (Ph.D.) brings additional at least BGN 130, and of scientific degree "doctor of sciences" - BGN 160 (Collective Labor Agreement for the System of Pre-school and School Education, 2020).

Thirdly, it is necessary to support positive innovations in education. For this purpose, since 2017, the Ministry of Education and Science has established a Network of Innovative Schools in the country. The network includes 504 schools for the 2020/2021 school year (Council of Ministers, 2020), compared to 395 for the 20019/2020 school year (Council of Ministers, 2019), 290 during the 2018/19 school year (Council of Ministers, 2018) and 184 schools at the start in 2017/2018 school year (Council of Ministers, 2017). There are four directions for innovations in these schools: innovative curriculum content, programs and plans, innovative teaching methods and learning environments, innovative management and organization of the learning process, innovative teacher training, and teacher cooperation. A key point in the guidelines for innovative schools is the qualification of teachers in line with the overall innovative plan of the school, especially with a view of improving the schooling process. It is logical to assume that better-qualified teachers will do better with establishing good discipline in class and motivating students to achieve higher learning outcomes. According to the survey mentioned above, 62 of 68 respondents have received training during the first 2 school years since the enactment of the new Law on Preschool and School Education. Asked to compare the innovations in their sessions on a scale of 0 (lowest) to 10 (highest), they answer as follows: before the training, the weighted average degree of innovation is 6.00 and after the training it is 6.98. The higher qualifications of teachers and the innovativeness in their professional activity have also contributed to the improvement of the behavior and motivation of their alumni. Accordingly, 19.4% and 13.4% of 67 respondents validate this.

Fourth, it is necessary to reduce bureaucracy in the system of pre-school and school education. So far, despite the insistence on the part of the teacher unions, the changes are in the opposite direction. However, appropriate training of the teachers can allow them to cope more quickly and successfully with the bureaucratic challenges.

4. CONCLUSIONS

The development of the professional potential of teachers in Bulgaria via the path of qualification is a condition for an innovative school socio-cultural environment. Well-trained pedagogical specialists can successfully teach their alumni the planned curriculum through classical and new methods of training and upbringing. Innovation as a key element of good pedagogical practice should be aimed at improving educational outcomes and increasing critical thinking and creativity of students. The problem of shortages of qualified teachers is addressed through (1) changes that will make the teaching profession in Bulgaria once again desired by young people; (2) by increasing the state admission in the pedagogical majors in universities, and (3) through changes in direction of provision of continuing qualification to the already operating pedagogues. The qualification of every teacher is a lengthy process that does not end and should not end with the obtainment of a university diploma. It is a lifelong one.

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