

EDUCATIONAL PERSPECTIVES OF HIGHER EDUCATION IN BULGARIA AS MEMBER OF THE EU WITHIN THE GLOBAL CHANGES 2030

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Abstract. The present article focuses on the question what are the educational perspectives of higher education in Bulgaria as member of the EU within the Global Changes 2030. The perspectives on education are challenges facing the Bulgarian society, which necessitates a dialogue of all involved in the process. Education and its main institutions face the challenge of preserving the Renaissance sense of belonging to a community and, through the introduction of digitalization and modern technologies, maintaining the personal attitude and good example. This implies conscious investments in human and material resources in order for the new technologies to be the natural environment of the process of learning and acquisition of knowledge and skills. For the purpose of this article, a variety of research methods have been used, including methods of analysis and synthesis of both primary and secondary sources of information. In addition, the use of induction and deduction, as well as secondary data analysis, has been applied. Moreover, statistical modeling and model-based analysis have also been implemented in the research process. Based on the critical analysis of the system of higher education in the country, specific problem areas have been identified. The analysis leads to the following conclusions: They concern the management of the higher education institution and the maintenance and improvement of the quality of education in it; the development of research and innovation activities in it; the improvement of funding and student admission schemes; the digitization of the learning process and the services provided by the administrative and management staff in the higher education institution; the development of the teaching staff and the professional guidance and counseling of students.

Keywords: higher education; digitalization; educational perspectives

Introduction

If for some the beginning of the first university was set with the creation of the Academy founded by the ancient Greek philosopher Plato in the IV century BC, and for others universities in Europe arose in the Middle Ages as Catholic secondary and higher schools under the authority of the Catholic Church, for the first modern

university in Bulgaria is admitted Sofia University “St. Kliment Ohridski” Sofia University “St. Kliment Ohridski”. For most of this time, higher education has looked and operated in many of the same ways. However, changes in technology and globalization have altered the nature of learners and the world in which they operate. How will higher education respond, and what does the future of higher education look like? (Talbert 2023), This is one of the main and most important questions. That is why the text focuses on the trends and challenges facing higher education, especially in Bulgaria, as a member of the European Union. For the purpose of this article, a variety of research methods have been used, including methods of analysis and synthesis of both primary and secondary sources of information. In addition, the use of induction and deduction, as well as secondary data analysis, has been applied. The period on which the author dwells is until 2030, because this is the period adopted by the state administration and in all documents as national strategies for higher education and its transformation and digitalization. It is extremely important that the vision, goals and principles laid down in the Digital Transformation of Bulgaria document for the period 2020 – 2030 be realized. Because this document defines the vision and objectives of the digital transformation policy of the Republic of Bulgaria for the period up to 2030, as a generalized political framework in which the National Program “Digital Bulgaria 2025”, the priorities of the “National Development Program BULGARIA 2030” find their place, as well as a number of other national strategic documents with a technological component covering the period 2020 – 2030. Serious attention is also paid to the objectives set in the Strategy for the Development of Higher Education in the Republic of Bulgaria for the period 2021 – 2030, which is in line with fundamental documents such as the Law on Higher Education, the Law on the Development of Academic Staff in the Republic of Bulgaria;, Strategy “Europe 2030”; National Development Program “Bulgaria 2030”; Strategy for the Development of Higher Education in Bulgaria 2014 – 2020; National Strategy for Lifelong Learning; National Strategy for the Development of Scientific Research in the Republic of Bulgaria 2017 – 2030.

The challenges for the Bulgarian higher education

The Bulgarian higher education today faces a number of challenges in the dynamically developing world of the 21st century. Overall, Bulgarian higher education institutions continue to be “invisible” in the international higher education space: they do not appear among the top 500 in prestigious global rankings of universities and by mid-2020 no Bulgarian higher European university networks. The good news is that in recent years there has been a gradual increase in number of foreign students studying in Bulgarian universities. According to NSI data, in the academic year 2018/2019 the number of 15.4 thousand, which corresponds to 6.7% of all students and to an increase of 38 % compared to the academic year 2014/2015.

Despite this positive trend, our country remains relatively weak recognized abroad as an attractive destination for education.

Accelerating dynamics of the labour market, ageing population and changes in the age structure, digitalization and development of educational systems that complement or are alternative to classical higher education, increasing the role of science and innovation for the development of a competitive economy and for solving societal problems, intensification of global supply of educational services in higher education (European Higher Education Area). These are just some of the challenges. There is a change in the role, objectives and functions of higher education. But alongside external challenges, higher education has its internal ones – which arise as a result of processes within the higher education sector in the Republic of Bulgaria. These are the quality of and access to higher education in the context of its massification in the context of a demographic crisis, lagging behind the trends in European higher education and weak internationalization of Bulgarian higher education, using the critical attitudes of society towards higher education as an incentive for its change, lack of alignment with the needs of the digital generation and with the competences needed for successful realization in the technological revolution, insufficient support and underdeveloped Challenges related to the governance of higher education institutions, the need for effective, objective and fair accreditation, and under-inclusion in the development of the country's economic centres are also facts. Therefore, among the priorities are: Elaboration and application of a new funding model which stimulates competition and the development of higher education institutions: (The new model aims at increasing the total size of public funds spent on higher education, including the state subsidy. This funding model should lead to competition between higher schools not only in the process of attracting students, but when determining tuition fees and enrolment conditions;) – Ensuring efficient and transparent management: Higher schools in Bulgaria are public institutions enjoying academic autonomy. The higher education governance is performed at state and institutional level. The state is responsible for the development and the implementation of a long-term national policy and establishment of conditions, which guarantee the academic autonomy of higher education institutions, the quality of education, and the provision of adequate conditions for performing scientific research. The necessity for strengthening the autonomy in the financial area is recognized and so is the need for establishment of additional mechanisms for publicity and transparency of management. In the period 2015 – 2020 the total state subsidy for higher education was increased from BGN 323.5 million to BGN 413.8 million. (+28%) with a decrease in the total number of students from 264 624 to 223 902 (-15.4%), thus compensating for the sharp reduction in HE funding following the economic crisis in 2008, there was no increase in

funding for research as foreseen in the 2015 Higher Education Development Strategy, resulting in leading to a lack of incentives for research in most HEIs in Bulgaria.

According to the Strategic Framework for the Development of Education, Training and Learning in the Republic of Bulgaria (2021 – 2030) (Strategic Framework is prepared by the Ministry of Education and Science in cooperation with stakeholders), the Republic of Bulgaria, as part of the European Education Area and the global world, must share the vision of developing high quality, inclusive, value-oriented and lifelong education, training and learning, taking into account national educational traditions and following its national priorities. This strategic document and the Strategy for the Development of Higher Education in the Republic of Bulgaria in the period from 2020 to 2030 outline the general framework for the development of education, training and learning in the Republic of Bulgaria until 2030. The indicative estimate of the financial resources required for the period 2021 – 2030 for the implementation of the objectives of the Strategic Framework amounts to approximately 50.0 billion BGN for the whole period.

It is a fact that higher education is a global trend, but it must be combined as a global trend, which has proven its usefulness for the development of the economy and society, with an effective system of incentives and restrictive measures that continuously improve quality, taking into account the specificity in the goals, motivation and capabilities of students. In many universities, changes are also needed in the curricula and degree programmes offered, because they are atypical for the university in question and this leads to low quality education and low graduate conversion rates.

We still need to enforce the financial model, which encourages quality and results rather than quantity, and the policy of administratively reducing approved admissions to higher education, so that the quality of education in a given professional field is not allowed to be low. In view of the still insufficient funding of the higher education system in Bulgaria as a whole, the financial model still needs to be changed. The time will probably not be far off when universities will be closed or merged. In order to achieve greater motivation of students to acquire knowledge, it is important to introduce personalisation of content. As well, there needs to be greater flexibility on the part of universities to launch and manage modern disciplines and degree programs (e.g., A.I., AR, VR, etc.). And given the changing job market and its demands, universities need to be as proactive as possible in offering opportunities for rapid retraining and practical oriented short-term courses that provide quick access to the labour market, as opposed to now where they are almost non-existent.

Many problems could be observed also in the educational system in Bulgaria as a result of the crisis: The population of the country drastically thinned down

(e.g. from 8.8 million in 1990 to 7.35 million in present times); Aging population (Bulgaria takes the third place of middle-aged population in the EU); Lower birth rate and higher mortality rate; Reduced flows of students; Increasing number of the dropouts, especially from minority groups; Increasing number of dropout students; Limited opportunities for employment; Growing youth emigration and etc. Key challenges related to demographic problems are: 1) Reduction in the number of prospective students. 2) Decreasing admission criteria to higher education institutions. 3) Lowering of criteria to students during their studies due to mass admissions and hence the quality of the quality of the education received. 4) The need for guidance of applicants campaigns and the overall organisation of higher education not only to the immediate graduates of secondary schools, but also to non-traditional learners through the development of lifelong learning dual learning, opportunities for combining learning and work and/or family commitments, etc.

It is the author's view that, amongst all the other challenges, particular attention needs to be paid to the elimination in education of factors such as gender and social status of students (be it their parents or themselves, especially in the pursuit of higher education) so that members of all sections of society have a real opportunity for universal access to quality higher education. It is therefore necessary to overcome the obstacles that still exist for certain groups in order to fully involve them in the educational process and then in their full and active participation in the labour market as integrated citizens, regardless of regional specificities, socio-economic status of the family and mother tongue.

At present days we need higher knowledge to be closely related to high technologies, digital technologies, new models of economic management, high intellectual value of the products of each industry, with an entrepreneurial spirit that does not depend only on taxes and fees, but on the “implemented” mentality during higher education. “The challenges suggest the need for a new model of strategic management of higher education and science – they suggest the development of “networks” strategies and stakeholder “networks” (Mileva 2021). The discussion on these challenges include references to practices and ideas outlining a philosophy of an education that better communicates the idea of digital, interconnected and democratic future. Mega trends such as digitalisation, globalisation, demographic shifts and climate change are changing work and society, generating increasing demand for higher levels and new skill sets. (OECD (2019). Investments and action in digital learning should be guided by the three core principles outlined in the 2021 Rewired Global Declaration on Connectivity in Education: Center the most marginalized; Free, high-quality digital education content; Pedagogical innovation and change. (Transforming Education Summit-UN). The Thematic Action Tracks are guided by the 2030 Agenda and its education-related goals and targets, specifically SDG 4: ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

The Higher education and the digitalisation

In recent years digitalization has become a key tool for providing access to quality HE, for greater internationalisation and for upgrading teaching methods in line with the attitudes and interests of young generations. Digitalisation, if implemented properly and with care for the student, can also address one of the worst problems of contemporary higher education, namely to provide quality education at lower costs that are within the means of a much larger number of students from diverse backgrounds. Digital skills and competences are a priority for the whole educational spectrum. Access to ICT for 21st century children is an integral part of access to education.

An excellent example are the goals of the UN 2030 Agenda for Sustainable Development and the use of new technologies to achieve them, as well as strategic documents of the European Commission “Europe fit for the digital age”, “Building Europe's digital future”, “New Industrial Strategy for Europe” and others. Moreover, digitalisation and new technologies, in particular artificial intelligence, are changing the world and the structure of professions. This change requires raising the level of digital competences and focusing the educational process on mathematics, technology and engineering skills; on working with algorithms, forming skills of flexibility and adaptability. Young people must have access to quality education related to the digital transformation, with a focus on science and mathematics. This will prepare them to adapt flexibly to new emerging professions.

Digitization (multimodality) of education is a key challenge posed by COVID-19 pandemics and Russian-Ukrainian war of societies. In the third decade of the 21st century these are two events of great importance for the future development of educational values, system and education quality standards. However, there is a need to take into account the proposed higher education – both in content and form – with the specific characteristics and needs of contemporary generations young people. Students and teachers use the Google workspace as a shared place for ideas, learning resources, sharing experiences, games. The many tools and applications serve to increase the motivation to learn, to increase the pace of the work process and to direct the thinking of adolescents to the idea that the Internet can and should be used for educational purposes. Higher education plays a key role in the process of the global future-building process. Its problems are the focus of global organizations and it therefore among the 17 Sustainable Development Goals of the United Nations. The European Union responds to this call, and through its bodies and activities, efforts are made to continuously improve it.

The renewed EU higher education agenda adopted by the Commission in May 2017, identified four key objectives for European cooperation in higher education: addressing future skills gaps and promoting excellence in the development of skills; building inclusive and connected higher education systems; ensuring that higher education institutions contribute to innovation; supporting effective and

efficient higher education systems (Evropeyska komisiya 2017). Because investing in education and science is a European strategic priority, through which the development of all other priorities is achieved. By developing education and science and managing them strategically, the EU is opting for a greener, more digital, more sustainable and better better prepared for today's and tomorrow's challenges.

That's why the International Covenant on Economic, Social, and Cultural Rights calls for accessible higher education, stating that it is necessary for the "full development of the human personality and the sense of its dignity." The spirit of the covenant underlies the Sustainable Development Goals (SDGs), which recognize that access to higher education is vital to lifelong learning. SDG 4 includes access to higher education in its 3rd target: "By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university." This target emphasizes that higher education must be globally accessible to all and of high quality. Increased access to higher education enables people to maximize their potential and further universal sustainable development. As the providers of higher education, universities can directly contribute to the realization of SGD 4 and its targets. And according to various UN studies and reports the education is a critical driver of the 2030 Agenda. Unfortunately, the digital transformation of manufacturing and service technologies has not been accompanied by educational reform, to enable citizens to make the transition to new professional and social roles. The citizens are not prepared for a lifelong learning world, which is changing more rapidly and becoming increasingly digitalized. There are "many diverse digital technologies that shape the face of technological change in education in all its degrees and forms, including in continuing education" (OECD 2016). With certainty it can be said that the students who are better prepared for the future will be kind of agents of change and will be able to understand other people's intentions and feelings and anticipate the short- and long-term consequences of problems affecting society (OECD 2018b), and teachers who use digital technologies in learning will be able to understand the accelerated development of areas of diverse knowledge. The Digital Education Action Plan (2021 – 2027) proposes a set of initiatives for high-quality, inclusive and accessible digital education in Europe. It is a call to action for stronger cooperation between Member States at European level, as well as with and between stakeholders, to make education and training systems truly fit for the digital age.

Implementing all the technology solutions will enable teachers to try out new ways of achieving their pedagogical goals. At the same time, from the very beginning of the learning process, students will gain confidence in the process of acquiring digital competences and skills. I believe that it is undeniable that the use of digital technologies increases the level of knowledge and that it improves the exchange process in the learning environment itself (the use of cloud technologies of a kind of "avatars" (personal electronic profiles) of all

participants in the learning process allows not only real-time access, but also the exchange of all information that is necessary in the learning process). It should be noted that it is indisputable that cognitive platforms, which are oriented towards knowledge management and transfer, are perceived as a major type of strategic communication (Marinov 2012, p. 17).

“Everyone has the right to education”

It is no coincidence that, according to the Charter of Fundamental Rights of the European Union, “Everyone has the right to education” (Article 14), and it is the European Union that has actively supported the priorities of the Bologna Process, which since its launch in 1999 has worked to build more comparable, compatible and coherent higher education systems in Europe and in neighbouring regions, and which culminated in the creation of a 50-country European Higher Education Area (EHEA) with the Budapest-Vienna Declaration of March 2010. It is the Bologna process that contributes to improving the quality of education systems, facilitating the comparability of higher education structures by providing quality assurance systems for the recognition of diplomas, thus enhancing the attractiveness of higher education in Europe. It can therefore be considered positive that the Republic of Bulgaria is among the first countries which signed in 1999 in Bologna the Joint Declaration for European Higher Education Area.

The Bologna Declaration rejects barriers and boundaries to knowledge. It sets a significant goal - cooperation and a sense of empathy throughout the European knowledge and science domain, trust between systems, motivation for higher and stronger education and research, cooperation with employers and creating transparency for the whole society (Bologna Declaration 1999).

As a result of the active participation in the Bologna process the following key characteristics have been introduced in Bulgaria: 3-degree higher education system: Bachelor – comprises two levels – “professional bachelor in” (ISCED 5B) and “bachelor” (ISCED 5A); Master (ISCED 5A); Doctor (ISCED 6); A credit accumulation and transfer system; European diploma supplement. Bulgaria is actively working on building up appropriate environment for modernizing the higher education system, taking into account the demands of society and the businesses.

The European Commission adopted a comprehensive digital skills and education package on 18 April 2023. Relating to a digital skills certificate and a digital education action plan, the proposals fit in the context of the European Year of Skills. The aim is to support European Union Member States and the education and training sector in providing high-quality, inclusive and accessible digital education and training to develop the digital skills of European citizens. The proposals address the two main common challenges jointly identified by the EC and EU Member States: 1) the lack of a whole-of-government approach

to digital education and training, and 2) difficulties in equipping people with the necessary digital skills. It is digitisation that is having a major impact on the transformation of society and the associated changes in the labour market. Moreover, the European Commission's targets include 80% of the EU population having basic digital skills by 2030.

At the same time in Bulgaria currently the tertiary education system includes 51 higher schools which under the Higher Education Act are state owned and private, including universities, specialized higher schools and self-contained colleges. There are 37 public (25 universities, 11 specialized higher schools and 1 self-contained college) and 14 private higher schools (5 universities, 2 specialized higher schools and 7 self-contained colleges). In view of the existing demographic crisis and the massification of higher education, with many vacancies remaining in various fields of study, the question arises whether the number of higher education institutions should not be reduced and the organisation of higher education changed. Possibilities for introduction of new managerial models have been investigated targeted to better financial consolidation/strengthening of higher education institutions. Because as a result of the access to higher education provided to the widest possible range of persons and the implemented program for the development of distance learning in more than 35 higher education institutions, the share of persons with higher education has reached 32.5 % for the age range of 30 to 34 years. Yet, due to a poorly developed lifelong learning system, Bulgaria remains one of the last countries in terms of learners in the 29-65 age range, with only 3.5% of learners compared to an EU average of 7.5%.

That is why Bulgaria is actively working to create the right environment for modernising the higher education system, taking into account the requirements of society and business.

The European Education Area and Bulgaria

Today, Europe is home to nearly 5000 higher education institutions, 17.5 million higher education students, 1.35 million higher education teachers and 1.17 million researchers. Higher education has been a key priority in the work of the bodies of the European Union since its establishment. The higher education sector has a unique position at the crossroads of education, research and innovation, serving society and economy.

It plays a critical role in achieving the European Education Area (EEA) and the European Research Area (ERA), in synergy with the European Higher Education Area; in shaping sustainable and resilient economies, and in making our society greener, more inclusive and more digital; in providing highly skilled Europeans with excellent prospects for employment, and engaged citizens participating in democratic life – 80% of recent tertiary graduates in the EU gain employment in less than 3 months after graduating. Because Europe needs more people with high

level skills, EU Member States have set the target that by 2030, at least 45% of 25 – 34 year-olds should obtain a higher education qualification.

The Commission's priorities for 2019 – 2024 (the Policy Guidelines) are: a “European Green Pact”; a “Europe fit for the digital age”; “An economy for people”; “A stronger Europe on the world stage”; “Strengthening our European way of life”; “A new impetus for European democracy”. The New Strategic Agenda stresses that Member States “must increase investment in people's skills and in education” (MINCER 1960). It should be stressed that the their first-ever joint policy debate on 8 November 2019, education and finance ministers agreed that investing in education, skills and competences is a necessity for all member states and should be a strategic priority for the EU. (Council Resolution on education and training in the European Semester: ensuring informed debates on reforms and investments – 2020/C 64/01, Official Journal of the European Union) Achieving the vision for the European Education Area by 2025 is only a tool to achieve common European priorities. An important emphasis is that cooperation can help improve the 'quality, inclusion, digital and environmental dimensions of education systems', i.e. cooperation could play a key role both in meeting priorities and in overcoming challenges of all sizes (EC, 2020 Achieving a European Education Area by 2025 and resetting education and training for the digital age).

The European Commission initiative “EEA – European Education Area” helps Member States of the Union work together to build more sustainable and inclusive education and training systems at all levels (European Education Area 2022). Higher education issues are central to the adopted Council Resolution on a strategic framework for European cooperation in education and training with a view to the European Education Area and beyond (2021 – 2030) (*Council of the European Union 2021*). The strategy paper commits the EC and the European institutions by 2030 to realize their activities and policies in the field of higher education, including in the Bachelor’s degree, according to the following priorities:

- Improving the quality, equality, inclusion and success for all in education and training – this is expressed in improving access, equality, quality and flexibility of training (including in accounting) for all learners with the aim of reducing social, economic and cultural inequalities, incl. and by developing digital skills and competencies;

- Making lifelong learning and mobility a reality for all – this is involved in providing learning opportunities (including in accounting) for persons of all groups adapted to their individual needs, including by stimulating innovation and ensuring passability and flexibility between different learning pathways in the Bachelor’s degree (including accounting specialties), application of new educational approaches, as well as validation of non-formal and informal learning, automatic mutual recognition of qualifications and study periods abroad and quality assurance;

- Improving competences and increasing motivation in the educational profession – attention is paid to the well-being, satisfaction, quality of teaching (including in accounting) and motivation of academic staff, which is an important factor for the quality of education and training (including in accounting);

- Strengthening European higher education – promoting the demand and implementation of new forms of deeper cooperation between higher education institutions (including the professional field of Economics, accredited to train students in the Bachelor's degree), in particular through the establishment of transnational alliances, pooling knowledge and resources, and creating more opportunities for mobility and participation of students and staff, as well as promoting research and innovation, including through the full deployment of the European Universities Initiative;

- Supporting the ecological and digital transition in and through education and training – including the environmental and digital dimension in the organizational development of education and training institutions (including in accounting), which will serve as a catalyst for the process by making investments in eco-systems for digital education to ensure the prospect of environmental sustainability and digital skills at all levels and types of education and training, including the Bachelor's degree (including in relation to accountancy)

Not surprisingly, education spending is not seen as current expenditure, but as an investment whose “rate of return translates into increased employment opportunities and future earnings” (Cingano 2014).

The need for a concerted effort to improve the quality of education and training should be recognised and be at the heart of all efforts with a horizon even beyond 2030, such as implementing regulatory changes, improving the performance of institutions and the mechanism by which they implement regulatory decisions, investing in adequate educational infrastructure to meet our needs as individuals and society as a whole.

That's why the European Strategy for Universities proposes to focus on achieving four key objectives. These are: Strengthen the European dimension in higher education and research- implement a set of flagship initiatives that aim to become the visible expression of a European approach, backed by appropriate financial support, to help universities building bridges and take transnational cooperation to the next level. Support universities as lighthouses of our European way of life – support universities to deliver quality and relevant future-proof skills, foster diversity and inclusion, promote and protect democratic practices, fundamental rights and academic values.

Empower universities as actors of change in the twin green and digital transitions- support the full engagement of universities in unfolding green and digital transitions. The EU will only meet its ambitions on equipping more young people and lifelong learners with digital skills and skills for the green transition, or developing green solutions through technological and social innovation, if the higher education

sector pulls its weight. Reinforce universities as drivers of Europe's global role and leadership – through deeper international cooperation within Europe and beyond, support universities in becoming more outward looking and competitive on the global scene. This will help in turn boosting Europe's attractiveness not only as a study destination, but also as an attractive global partner for cooperation in education, research and innovation.

Therefore, it is crucial to implement several major initiatives regarding higher education in Europe and Bulgaria. Further roll-out of the European Universities Initiative to 60 European universities with more than 500 campuses by mid-2024, supported by the Erasmus+ programme with an indicative budget of €1.1 billion for the period 2021 – 2027. The aim is to develop and share a common long-term structural, sustainable and systemic cooperation in education, research and innovation, creating European inter-university campuses where students, staff and researchers from all parts of Europe can enjoy seamless mobility and create new knowledge together, across countries and disciplines.

Work to establish legal status for higher education alliances by mid-2024. Explore the possibilities and necessary steps to introduce a joint European degree (a joint degree based on common European criteria) by mid-2024 to recognise the value of transnational experience in the qualifications that students receive in higher education and to reduce bureaucracy in implementing joint programmes. (covering all levels Bachelor, Master, Doctorate and lifelong learning opportunities). Expand the European Student Card initiative by introducing a unique European student identifier available to all mobile students in 2022 and to all university students in Europe by mid-2024 to facilitate mobility at all levels.

It should be recognized that the main challenges related to increasing the role of science and innovation specifically to higher education have already been outlined in publicly available documents. (Document- Strategy for development of higher education in the Republic of Bulgaria for the period 2021 – 2030). The main ones deserve mentioning are:

- 1) Development of human and material resources in the universities taking into account regional characteristics; this requires investments to provide for the necessary base, knowledge and skills to solve significant scientific and applied research tasks in different areas of the economic and social life.

- 2) Development of appropriately balanced institutional programs and introduction of contest formats when funding is from public sources, as well as attracting private funding for applied research projects.

- 3) Supporting teachers and scientists, who should be more actively involved in solving practical problems – this implies the introduction of different mechanisms and incentives for academic growth and remuneration; among others, there should also be benefits for private financing, i.e. by law incentives for participation in any form (public-private or entirely private) of financing of PhD students and students.

4) Introduction of quality practical training in innovation and entrepreneurship in all professional fields, which is the basis for building an entrepreneur culture among graduates.

5) Improving the mechanisms for planning, management, reporting and coordination of the scientific and innovation process, including the tools that are the basis for the sustainable and effective development of the Bulgarian scientific and innovation ecosystem. (*Document- Strategy for development of higher education in the Republic of Bulgaria for the period 2021 – 2030*).

It cannot be denied that the ability to analyse the information received and used will underpin expectations of how students will be able to apply what they have learned in the years to come. This does not mean, as I have already mentioned, memorisation of material, but the acquisition of skills by learners to use available technologies to achieve socially useful outcomes, including by improving existing and acquiring new knowledge and technologies in a safe and secure manner.

That is, to master a lifelong learning process in which they can share the results. This means that the education system by 2030 will focus both on improving the remuneration and attraction of teachers to meet the new challenges facing the education system and on building the necessary educational infrastructure to enable learners to develop the skills to seek, find and extract the essence of information from a variety of sources. These skills in a digital environment (Georgieva-Lazarova 2012).

This means that in the educational institution, he is not scientific, but he has acquired the skills to process the given task, as a result of this processing to extract the necessary criteria that will allow him to evaluate the facts and circumstances available to him, to be able to make a correct judgment which of them are real, which of them are carriers of information with a high degree of reliability. Last but not least, although they are perceived as real and bearing real information, how relevant and adequate they are to the task.

To achieve sustainable results, learners' digital learning environments need to be organised in the closest possible way, essentially becoming an essential element of the natural environment in which they acquire knowledge and skills. In this way, learners will be able to build the skills to create the least resistance and to defend their judgement, both in terms of the facts they receive and the media in which they receive information. It is then only natural to expect that learners will share, even as praise, both the result obtained and the way they arrived at it. With the introduction of the digital environment, the learner will build skills to retain the results obtained, including by taking notes as they achieve results and/or learning skills that are retained and are always available both to him and to those with whom he has shared the information.

There are also undeniable benefits for teachers (Bloom 2020) in a digital environment have the opportunity to be constantly in the same space with the

learners through their digital identifications (Digital teaching forum 2022) (Nikolova 2019). This would not only facilitate the introduction of the same criteria in communication, but would also contribute to mutual improvement in the learning process – the teacher is facilitated in the process of teaching and control (Dale 2014) of the assigned learning tasks, and the student can clearly adopt the necessary criteria that he/she should meet in their learning process and/or skills acquisition.

Interestingly, data on the digital competence of teachers shows that almost half of the teachers in the country's higher education institutions rate their level of digital competence in working with different information technologies and learning platforms as average. Almost equal is the share of those who, as a self-assessment, give themselves a very good level of digital competence – about 46%. Only 4% of teachers consider that they are not competent enough to work with digital technologies and platforms, and only 1.4% of teachers surveyed rate their digital competence as poor. (OECD)

University lecturers themselves report the advantages of digital learning to be many and varied, but the main ones are free access to learning materials at any time and from any place (71%), flexibility (63%), the ability to control financial costs (62%), access to many different learning platforms (49%) that allow free use (28%). (OECD) In my opinion, these advantages should be the basis for overcoming the challenges facing higher education. This requires a much more optimal management of existing resources, i.e. an active interaction between all elements of government in the field of higher education. In this sense, the unification of efforts of all participants in the process is shared by other authors who have their own works on the subject (Mileva 2022).

The data from an extended study that does not note the existing problems in Bulgaria, are:

- Constantly decreasing share of professional students due to negative growth
- Declining number of trainees in individual occupations
- Lack of adequate educational infrastructure that is linked to the existing socio-economic characteristics of the region.
- Lack of analysis of the real needs of the labor market at municipal, regional and national level before the implementation of the state plan for admission to state and municipal schools
- Lack of monitoring of the realization of students who have completed vocational education, which leads to ineffective personnel management.

Based on the results obtained, it can be concluded that it is a real possibility precisely through the digital environment to achieve a reform of vocational education, which, by increasing its quality, therefore will give a positive change in the labor market, breaking the trend for a decreasing number of trainees by professions. This would significantly reduce the risk of poverty or social exclusion

among children, which for our country is one of the largest in the EU and is correlative to the educational level of parents.

This analysis of the topic of the prospects for education in Bulgaria by 2030 would not be complete and objective if not taken into account, at least a few key points in the announced Strategic Framework for the Development of Education, Training and Learning in the Republic of Bulgaria (2021 – 2030), as far as this is the document outlining the general framework. The document formally corresponds to the commitments our country has made under international agreements and is with ambitions in the period up to 2030 the educational system in our country to prepare learners for their personal and professional realization, as the educational system covers them throughout the period from pre-school education to lifelong learning, in accordance with national educational traditions and priorities.

Therefore, in order to meet the challenges by 2030, education must continue to break stereotypes that it is a rigid, conservative system, responding to modern challenges and providing education that incorporates new knowledge and skills needed in the 21st century. Education should not only be expected to know facts and circumstances, but an environment in which students and teachers can develop and strengthen their social and emotional intelligence and integrity.

This suggests that by 2030 the basic and functional literacy acquired in the school environment in the various fields of knowledge – literature, science, technology, and new digital skills. Of course, this also means developing the tasks already set for education – socialization of students by developing teamwork skills, promoting initiative and the ability to form an evaluative opinion based on available and sought information. Last but not least, due to negative demographic trends and the departure of many people from the country, as well as internal migration, with a focus on the capital, education has to deal with issues such as the loss of human potential with educational opportunities built up to varying degrees over the years. The loss of human capital has as a direct consequence the reduction of economic opportunities in different regions, for which it is necessary to consider how they are compensated, not in the long term, but in the medium term, and even in the short term.

The crisis caused by COVID-19 has also provided opportunities for our education system that must be seized. Since it is undeniable in my opinion that e-learning has “significantly changed the vision, format and quality of distance learning through digital platforms”, it is undeniable that inquisitiveness should be encouraged, (Kamenov 2022), but also adaptability, not only in times of global crises. It is a fact that “in the midst of the global pandemic COVID-19 in April 2020, 1.5 billion pupils and students from 193 countries, or 91% of the total number of pupils, are deprived of school, according to UNESCO (Kamenov 2022). At the same time the number of students in massive open online courses reached at least 220 million in 2021. The learning application Duolingo had 20 million daily

active users in 2023 and Wikipedia had 244 million page views per day in 2021. Globally, the percentage of internet users rose from 16% in 2005 to 66% in 2022. (UNESCO, 2023)

One of the huge challenges that Bulgarian education has to face by 2030 is its ability to form values in every person and to build value-oriented behaviour, because education is one of the most powerful and proven tools for sustainable development. (UNDP 2022)

A change is needed both in the way the learning material is taught and in the results that are expected to be obtained after training – that is, the results that learners have the opportunity to achieve after applying the knowledge and skills gained in the learning process are important, including by memorizing and reproducing information and using interactive methods, so that at the end of the period it can be concluded that the quality of education has increased. This implies continuing policies, both in the investment in educational infrastructure and in a proactive increase in the salary of engaged educators. A quality educational system is possible only when it is provided with qualified educators and specialists who discover and develop the talents and talents of each child / student. The ultimate goal is universal and equal access to quality education, based on the digital transformation we experience as a society in all spheres of public life.

Of course, this does not mean that all learners will be shaped “by a mold”, but on the contrary, the challenge is to find an individual approach that will guide the learner to one profession or allow him to acquire new knowledge and skills when acquiring another profession. An individual approach in the process would make the acquired knowledge and skills in the professional realization of each student most effective and fully applicable. It is the enlightened, individual approach given in education that should be the basis for the development and implementation of appropriate policies on important topics such as, say, leading a healthy and environmentally friendly lifestyle. At the same time, it is an educated society that should be able to avoid the pitfalls set by some populists in public discussions, such as sustainable development with the implementation of policies in relation to the green transition or solving existing and deepening social inequalities. It is very important that everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market.’ (first principle of the European Pillar of Social Rights (2017).

Conclusion

Policies that promote measures/ways to invest in science and innovation should undoubtedly be at the forefront, as this essentially encourages the creativity of the individual and society as a whole. By investing in innovation, it is possible to produce lasting knowledge that will help to guide learners through all stages of education and

then into their careers and life. Higher education is adopting digital technology the fastest and being transformed by it the most. The future of higher education will be more individualised and student-centred than in the past. Where traditional higher education has focused on the mass delivery of information through lectures, future higher education may allow for differentiated learning through flipped learning, tailored digital certificates and AR/VR technologies. Higher education has traditionally functioned on the information scarcity model, with educators acting as gatekeepers of knowledge. The reality today is very different and in the future both pedagogy and technology will assume free, round-the-clock access to information. Thus, teaching techniques that rely on the transmission of information will become obsolete, and the focus of learning will shift to meta-skills such as problem solving and collaboration, aided by technology. The future of higher education will focus less on content coverage and more on skills and experiences that go beyond content. But as Plato said, “The direction in which a man's education is directed from the beginning will determine his future life.”

REFERENCES

- Achieving a European Education Area by 2025 and resetting education and training for the digital age – 30 September 2020 https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1743
- BLOOM, B., 2020 . “Digital Learning”, ISBN 9786192560102
- Council Resolution on education and training in the European Semester: ensuring informed debates on reforms and investments- 2020/C 64/01, Official Journal of the European Union
- CONGANO, F., 2014. Trends in Income Inequality and its Impact on Economic Growthp OECD Social, Employment and Migration, Working Papers No. 163.
- DALYS 2022 – <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/158>
- Educational mobility in the field of Youth [viewed 23 August 2023]. Available from <https://erasmus-plus.ec.europa.eu/bg/programme-guide/part-b/key-action-1/mobility-youth>
- European Higher Education Area and Bologna Process, 1998. Sorbonne Declaration. Retrieved 10.09.2023 from <http://www.ehea.info/page-sorbonne-declaration-1998>
- European Higher Education Area and Bologna Process, 1999. Bologna Declaration. Retrieved 11.07.2022 from <http://www.ehea.info/page-ministerial-conference-bologna>.
- First principle of the European Pillar of Social Rights, 2017, accessed: <https://op.europa.eu/en/publication-detail/-/publication/ce37482a-d0ca-11e7-a7df-01aa75ed71a1/language-en/format-PDF/source-62666461>

- For research on information literacy and computer literacy, see Belshaw, D. A., What is Digital Literacy, 2011 accessed: <http://dmlcentral.net/wp-content/uploads/files/doug-belshaw-edd-thesis-final.pdf>
- Global Education Cooperation Mechanism [viewed 23 July 2023]. Available from <https://www.sdg4education2030.org/education-2030-framework-action-unesco-2015>
- MINCER, J., 1960. Investment in Human Capital and Personal Income Distribution – Journal of Political Economy, 1958, vol. 66, no. 4, pp. 281 – 302; Schultz, T.W. Capital formation by Education – Journal of Political Economy, vol. 68, no. 6; Schultz, T.W. Economic value of Education. New York, 1963.
- OECD (2016), Innovating Education and Educating for Innovation: The Power of Digital Technologies and Skills, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264265097-en>
- OECD Future of Education and Skills 2030 [viewed 12 December 2022]. Available from <https://www.oecd.org/education/2030-project/>
- OECD 2018b – <https://www.oecd.org/education/education-at-a-glance-2018-data-and-methodology.htm>
- OECD Skills Strategy 2019 [viewed 7 June 2023]. Available from https://www.oecd-ilibrary.org/sites/9789264313835-en/index.html?itemId=/content/publication/9789264313835-en&_csp_=eef9590c8a200b40c4a9357a6f7dd37e&itemIGO=oecd&itemContentType=book
- OECD (2019), OECD Skills Strategy 2019: Skills to Shape a Better Future, OECD Publishing, Paris, <https://doi.org/10.1787/9789264313835-en>
- Proposals to the draft Strategic Framework for the Development of Education, Training and Learning in the Republic of Bulgaria (2021 – 2030) <https://amalipe.bg/strategicheska-ramka-obrazovanie/>
- Strategy For the Development of Higher Education in The Republic of Bulgaria for The Period 2021-2030. URL: <https://www.rategy.bg/PUBLICCONSULTATIONS/View.aspx?Id=5238>
- TALBERT, R., 2023, Three Perspectives on the Future of Higher Education, How will flipped learning, 21st century skills and virtual and augmented reality change how students learn? Steelcase, [viewed 15 September 2023]. Available from <https://www.steelcase.com/research/articles/topics/learning/three-perspectives-future-higher-education/>
- The government approved 21 national programs for the development of education for BGN 230 million [viewed 2 June 2023]. Available from <https://www.pedagozi.bg/novini/21-nacionalni-programi-za-razvitie-na-obrazovaniето-odobri-pravitelstvoto>
- The Ministry of Education and Science, the Strategic Framework for the Development of Education, Training and Learning in the Republic of

- Bulgaria (2021 – 2030) <https://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=1399>
- Transforming Education Summit-UN [viewed 15 July 2023]. Available from <https://www.un.org/en/transforming-education-summit>
- UNDP, 2022 Reviews of Evaluation and Assessment in Education: Bulgaria [viewed 27 July 2023]. Available from <https://www.oecd-ilibrary.org/sites/81d18411-en/index.html?itemId=/content/component/81d18411-en>
- UNDP, What are the Sustainable Development Goals? Available at <https://www.undp.org/sustainable-development-goals>
- UNESCO. 2023. Global Education Monitoring Report 2023: Technology in education – A tool on whose terms? Paris, UNESCO
- What are the Sustainable Development Goals? [23 July 2023] Available from <https://www.undp.org/sustainable-development-goals>
- DAMYANOV, K., 2022. “Socio-pedagogical Support and Inclusive Education in the Conditions of a Pandemic”, University Press Paisii Hilendarski, ISBN 978-619-202-747-6
- FILIPOVA, M, YULEVA-CHUCHULAINA, R., 2022. Problems in Learning in a Digital Environment for Higher Education Teachers, Publishing House Strategies of education and science policy, p. 9 et seq., Book 1, year XXX, ISSN 1310-0270
- IVANOV, P. “Digital Literacy” available at <https://prepodavame.bg/digitalna-gramotnost/>
- GEORGIEVA-LAZAROVA, S., 2012. Training in a Digital Environment, University “St. St. Cyril and Methodius” – Veliko Tarnovo, ISBN: 9789545248733
- KAMENOV, H. 2022. “E-learning in the 21st Century – Globalization, Pandemic and Perspectives”, magazine “Bulgarian Science”, issue 153, ISSN 1314-1031 also available on <https://nauka.bg/elektronnoto-obuchenie-xxi-vek-globalizaciya-pandemiya-perspektivi-2/>
- KAMENOV, H., 2022 “The Electronic Training Environment through the Focus of Teachers – A Survey to Establish the Opinions and Attitudes of Active Teachers in Bulgaria”, Kamenov magazine “Bulgarian Science”, September, ISSN 1314-1031.
- KIROVA, A, ZAREVA I., MATEV, M., 2012. Preservation and Development of Human Capital in Education and Science in Bulgaria et seq, AI “Prof. Marin Drinov”, ISBN 9789543225057
- MARINOV, R., 2012. Interactive Strategic Communications, New Bulgarian University Press, ISBN 9789545357336
- MEGI, Y. et al. 2021. Guide to Virtual Vocational Education and Training, available at https://www.vwbl.eu/sites/vwbl/files/attachments/2021-08/vWBL_Guide_BG.pdf

- MEGI, Y. al, 2022: Digital learning: practical advice and tools for modern conduct of classes: for teachers / trans. of German. ez. Georgi Kaytazov, virtual Work-Based Learning to simulate real experience in VET digital traininged. RAABE Bulgaria, Sofia, ISBN
- MILEVA, I., 2022. Challenges to the Strategic Governance of Higher Education in Bulgaria in the New Decade (National Map of Higher Education), 'Strategies of education and science policy'., booklet 1/2022, year XXX, ISSN 1310–0270
- NIKOLOVA, N. et al, 2019. A book for the IT teacher for 10. Class, ed. Prosveta – Sofia, ISBN 978-954-01-3868-8
- VALKANOVA, V., 2014. Studies of virtual educational space in secondary school – dissertation for acquiring the educational and scientific degree “Doctor” in field 4. Natural sciences, mathematics and informatics, professional field 4.6 Informatics and computer science, doctoral program Informatics – Bulgarian Academy of Sciences, Institute of Information and Communication Technologies, Sofia available on 11.11.2022 at the link https://www.iict.bas.bg/konkursi/2014/V_Valkanova/disertacia.pdf
- YANKOVA, I., VASILEVA, R., 2023. E-collection Innovative educational environment for continuous vocational training in the field of cultural and creative industries available 11.01.2023
- YOVKOVA, B., Peycheva-Forsyth, R., 2020. Digital Forms of Learning and Opportunities for Their Application in Public Administration, Institute of Public Administration, ISBN 978-619-7262-21-6

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