

# **Exploring Digital Educational Transformation in Bulgaria Illustrated through the Experience of a Leading University**

*Polya Katsamunska, Ph.D, University of National and World Economy,  
Bulgaria, e-mail: polya.katsamunska@unwe.bg<sup>1</sup>*

## **Abstract**

The paper's objective is to explore digital educational transformation in Bulgaria and to illustrate the approach followed by a leading university to digitalize education and to provide digitalized services. In Bulgaria, as in many other countries in the world, the COVID-19 pandemic had a dramatic and disruptive impact on all involved in education, but at the same time it accelerated an existing trend towards digital education.

The analysis covers various international and national initiatives, policy papers and programs for the ongoing digital transformation in the educational process. These new developments have largely determined the theoretical and methodological framework, and the analytical methods and tools, adopted and applied in the paper. They are basically drawn on recent research and publications of international and national organizations, scholars and expert opinions, as well as personal observations and teaching experience.

To provide a careful consideration of context specifics of the situation in the country, the paper examines the current state of higher education system and identifies some of the major gaps, overlaps and potential for further developments. The challenge raised by the pandemic led to the unprecedented use of technology for education and training purposes, adoption of online and distance learning models, introduction of necessary measures to make the best use of available resources, tools and teaching strategies. The findings suggest that the emergency solutions adopted are to be considered as innovative, useful and successful in the majority of cases but today digitalization in higher education is still seen as an additional challenge rather than an integral part of the provision of higher education in the digital world. An issue of great concern is the effects of digitalization on the quality of learning and what are the proper measures needed to overcome the main deficits in the quality of digital education.

**Key words:** digital era, digitalization, digital education, digital education strategy, digital educational services

---

<sup>1</sup> Professor at the Department of Public Administration, University of National and World Economy, Sofia, Bulgaria

## **Introduction**

Today we live in the transition to a digital era and we all are witnesses of the deepening impact of digitalization on everyday life. It concerns education more than other parts of our societies, because it has the potential to transform our life. The role of education in building inclusive and democratic societies is essential. It is the education that allows us to have access to a number of Sustainable Development Goals. For many reasons investing in education have vast social and economic advantages for society. No doubt that a better educated people break away from poverty more easily and help to reduce inequalities and achieve gender equality; they are more tolerant, have less reliance on public aids and more tax revenue, and contribute to reduce crime, to increase political and civic participation and generally to have more peaceful societies.

Until the COVID-19 crisis, education had not been at the front-line of digitalisation and its impact on education and training was limited. The pandemic has revealed that having an education and training system which is fit for the digital age is essential<sup>2</sup>. Available data from research and publications of international organizations identifies that many countries have adopted a specific strategy on digital education, or integrated this topic in a generic strategy on digital innovation as such before the 2020 coronavirus crisis. These digital education strategies cover different opportunities in the field of education and contain different ideas but they all signify that countries acknowledge the benefits of digitalization and the role of government to support digital innovation in education.

The pandemic has had a dramatic and disruptive impact on all involved in education, but it has accelerated an existing trend towards digital education. With the outbreak of the crisis the core academic activities were catapulted into the virtual world and this has led to the unprecedented use of technology for education and training purposes. As in many other countries across the world education in Bulgaria entered into a new age.

### **1. International and National Initiatives to Support Digital Education**

Although most education systems were unprepared, the sector of higher education, as a whole, demonstrated reactivity in order to find solutions to the challenge raised by the pandemic and the emergency solutions adopted were considered as successful in the majority of cases. In order to advance COVID-19 Education Response from around the world UNESCO launched Global

---

<sup>2</sup> Digital strategies in education across OECD countries: Exploring education policies on digital technologies, OECD Education Working Papers No 226, Directorate for Education and Skills, OECD, 2020, at <https://www.oecd-ilibrary.org/docserver/33dd4c26-en.pdf?expires=1679835839&id=id&accname=guest&checksum=A9EB345B23CB7AD109351B6895F42968>.

Education Coalition<sup>3</sup> as a platform for a multi-sector partnership and collaboration to protect the right to education during the unprecedented disruption and beyond. The global coalition, united by the principles of innovation, partnership and solidarity, was composed of the UN, academia, civil society, media partners and the information technology sector to ensure that learning never stops and to help individual countries in designing and deploying “innovative and context sensitive solutions.” Announcing the start of the initiative in March 2020, Director General of UNESCO stated that “we entered a radically new age of learning, requiring digital transformation and virtual schools”<sup>4</sup>.

Within this context, UNESCO developed Strategy on Technological Innovation in Education (2022-2025)<sup>5</sup> to guide the organization’s work to provide that technological innovation supports countries in meeting SDG 4. This is an important document in the UNESCO plan for the ongoing digital transformation in the educational process, which is supported by increasing connectivity worldwide in order to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". To better plan and fund the academic activities higher education institutions need to introduce and understand the importance of digital services such as artificial intelligence, big data, cybersecurity and higher education management information systems. UNESCO provides support and political advice on inclusion and access to higher education institutions through the use of digital technologies for hybrid education. UNESCO supports the development of e-learning platforms and higher education for online and blended learning.

At the EU level the issues of digital education are addressed by the European Commission through its Digital Education Action Plan (2021-2027)<sup>6</sup>, which is built on the first Digital Education Action Plan (2018- 2020). This is the renewed European Union (EU) policy initiative that aims to support the adaptation of the education and training systems of member states to the digital age and to promote greater cooperation at European level on digital education among the education and training community, policy makers, academia and researchers on national, EU and international level. The goals are to develop and enhance the efficiency of the digital education ecosystem and enhance digital competences and systems that develop digital skills. Since the outbreak of the COVID-19 pandemic it has become all the more relevant to have digital competences and skills and to ensure the availability of digital infrastructure and equipment.

---

3 UNESCO, Global Education Coalition, <https://en.unesco.org/covid19/educationresponse/globalcoalition>

**4** UNESCO, Global Education Coalition, Message from Audrey Azoulay, UNESCO Director-General, [https://www.youtube.com/watch?v=St\\_BQRSXmew](https://www.youtube.com/watch?v=St_BQRSXmew)

5 UNESCO Strategy on Technological Innovation in Education (2022-2025) at <https://unesdoc.unesco.org/ark:/48223/pf0000378847>

6 EU, Digital Education Plan 2021-2027: Ressetting Education and Training for Digital Age, at <https://education.ec.europa.eu/focus-topics/digital-education/action-plan?>

At national level the main program is Digital Bulgaria 2025<sup>7</sup>, which is a continuation of Digital Bulgaria 2015. The newest version of the program aims to modernize and implement new intelligent information technology solutions in all areas of economy and is coordinated by the Ministry of Transport, Information Technology and Communication of Bulgaria. When it comes to digital skills development on a national level, the program sets out three main objectives. The first objective - Modernization of school and higher education in the field of ICT - is the most important for the paper and it includes such activities as development of reliable and modern ICT infrastructure at schools and universities, improving students' digital competences, modernizing the educational curriculum and teaching methods, and upskilling teachers, educators and training providers. All activities for implementation of this objective aim to further strengthen cooperation between education, industry and the non-governmental sector. The second objective for increasing the number of highly qualified specialists in the field of ICT has two key activities, which are to increase the young people trained for these professions and to promote the development of these specialists. The third objective is to improve the digital and ICT skills of the workforce and under this objective different programs financed by the Bulgarian government are considered.

There is no doubt that the digital transformation is under way and it makes IT skills more important every day. The reviewed literature under this topic is also dominated by the question: why digital education is so important? In the words of Kai Beckmann<sup>8</sup>, "Despite all the changes that are taking place in the wake of digital transformation, the goal of education remains the same: It should enable people to develop as individuals and allow them to participate in social, political and economic life in a responsible manner. That is why we need education that is on par with the latest technology."

## **2. The Impact of Pandemic on the Higher Educational System in Bulgaria**

The impact of the pandemic was varied according to the particular system, but the world of higher education responded innovatively and rapidly to the crisis as it emerged in many countries in the world. In Europe the vast majority of universities closed their campuses in March 2020 and the sudden and disruptive shift to remote education varied by size, governance models, and disciplinary differences. Disciplines that require lab work, practical experience, and external collaboration were more difficult to teach remotely.

In order to analyze the digital educational transformation in Bulgaria it is necessary to identify and describe the implications of COVID-19 policy and measures both at system level and at the level of educational institutions. At system level it involves actions taken by national and

---

7 Digital Bulgaria 2025, at [https://www.mtc.government.bg/sites/default/files/uploads/it/09-12-2019\\_programa\\_cifrova\\_bulgariya\\_2025.pdf](https://www.mtc.government.bg/sites/default/files/uploads/it/09-12-2019_programa_cifrova_bulgariya_2025.pdf)

8 Kai Beckmann, The Importance of Digital Education, at [https://www.merckgroup.com/en/the-future-transformation/digital\\_education.html](https://www.merckgroup.com/en/the-future-transformation/digital_education.html)

regional authorities, including mainly policies and guidelines, while at the level of individual university it covers all actions taken by university management staff as well as actions taken at the level of academic units in regard to teaching and learning. This approach is based on my understanding that the most visible impact of Covid-19 on higher education has been observed on teaching and learning as they are the core activities of any university.

In Bulgaria, the pandemic has developed in health and socioeconomic crisis and has deeply influenced the whole system of education. As statistics indicates Bulgaria has had the lowest vaccination rate and one of the highest COVID-19 death rates per capita in the world. The closing of the educational institutions has been considered as one of the most important instruments of social distancing in the fight against the pandemic; consequently, schools and universities had to adapt and quickly introduce online and distance learning models that were enabled by information and communications technology.

The Bulgarian Minister of Health announced the first active measures related to the outbreak of pandemic on 1 February 2020<sup>9</sup>. Few weeks later the government set up a National Operational Headquarters composed of representatives of public authorities and experts to be responsible for coordinating the countermeasures against the pandemic outbreak. Educational activities in Bulgaria were stopped on 6 March 2020 by an order of the Minister of Health, which introduced mandatory suspension of educational activities in schools and recommended the same measure in universities. Simultaneously, the parliament declared state of emergency on 13 March 2020 for a period of one month empowering the government to adopt all necessary measures to address the pandemic<sup>10</sup>. All this led to the adoption of a special law, voted on 20 March 2020, re-voted on 23 March 2020 after the President vetoed some of its provisions, and published on 24 March 2020.

In the area of education, the law introduced electronic education for all students in day, evening, part-time, individual, combined and dual form of education obliging the teachers to deliver distance learning classes and school directors to manage and monitor the process using information and communication technologies. In order to comply with the new law the schools started to provide online and distance classes and in the mid of March 2020 the Minister of education announced that about 90% of all schools in the country were successfully applying digital communication and learning provisions. To support them the Ministry of Education and Science provided all schools with free accounts for the Microsoft TEAMS platform and prepared

---

<sup>9</sup> Ministry of Health, Press release, 1 February 2020, at <https://www.mh.government.bg/bg/novini/aktualno/kiril-ananiev-blgarskite-zdravni-vlasti-sa-vzeli-v/>

<sup>10</sup> Bulgaria, National Assembly, Decision of declaring state of emergency, 13 March 2020, at <https://dv.parliament.bg/DVWeb/showMaterialDV.jsp?idMat=146931>

<sup>10</sup>. Bulgaria, Measures and Activities during the State of Emergency Declared by Decision of the National Assembly of 13 March 2020 Act, 24 March 2020, at <https://dv.parliament.bg/DVWeb/showMaterialDV.jsp?idMat=147150>

recommendations for the organization and implementation of distance learning classes to help schools and teachers meet the specific objectives of the new form of education.

At present there are about 2600 educational institutions of various levels in the Bulgarian national education system - schools, colleges, universities, etc. More than 85000 teachers and lectures are involved in the educational process. As for the higher education system there are 52 higher education institutions, of which 38 are public and 14 are private. They include universities, specialized high schools and independent colleges, which offer hundreds of different Bachelor and Master degree programs distributed into 52 professional fields. Obviously, it can be assumed that online and distance learning will be influenced by the nature of each program course and the specifics of the respective professional fields in which each program provides training.

Each one of these institutions has different IT competences and dynamics, various equipments, but the pandemic situation made everyone realize that there is need of rapid digitalization and digital transformation of all processes – from administration through teaching, learning, and examining the students. However, digital transformation of education is not the only challenge for the system of higher education in Bulgaria. Recent research and publications of European institutions and international organizations indicate the higher education system in Bulgaria is considered to be highly fragmented. Reviewing the research system in Bulgaria the studies point out that Bulgaria has one of the EU's highest numbers of HE institutions compared to its population and recommend university mergers and a clearer definition of the mission of different types of universities in terms of research or teaching focused.

The National Strategy for the Development of Higher Education 2030 proposed to map the sector in order to identify gaps, overlaps and potential for further developments. The National map of higher education in Bulgaria has been developed, adopted and is updated in accordance with the Law on Higher Education and the Development Strategy of higher education in the Republic of Bulgaria for the period 2021–2030. The updated national map for 2022 highlights serious structural problems in the system and for another year there is no one to properly address measures to overcome its imbalances<sup>11</sup>. The document points out that the capacity of the accredited higher education institutions in Bulgaria is almost two times greater than the number of active students and it is not always consistent with the demand for educational services in fields and specialties. According to the data, in the academic year 2021/2022 the number of active students is 200,781, of which 87.1% study in state universities and 12.9% - in private ones. Over 129 thousand students are enrolled in "bachelor" degree programs, followed by over 64 thousand students in "master" degree programs. There are just over 7 thousand students in doctoral programs. The total number of all foreign students is 16, 525, but they are concentrated in a relatively small number of professional

---

11. Updated National map of higher education in Republic of Bulgaria for 2022, adopted by Decision No. 32 of The Council of Ministers from 12 January 2023, at <https://web.mon.bg/bg/101031>

areas. Over half (56.3%) of them are trained in only two professional fields (Medicine and Dentistry), while only 577 foreign students are enrolled in programs from the professional area of Administration and Management. This means that the share of foreign students in the Administration and Management professional area of all foreign students in Bulgaria is 3.5%.

The National map also points out that on national scale the most popular professional areas are economics, pedagogy, medicine, administration and management, communication and computer technology, informatics and computer science and law. The data shows that over 50% of active students on a national scale are enrolled in programs in these professional areas. There is a certain relationship between the number of students in a field and the number of universities that provide training in the relevant field. In general, the more popular fields are taught in more universities, however, there are also significant differences. For example, the number of active students is similar for medicine and administration and management (public administration programs fall in this field), but medicine, which is a regulated specialty, is offered in 7 universities, while administration and management, which is not regulated direction - in 26 universities.

Many factors determine the number of universities in a certain professional field – the specifics of teaching in the relevant field, the research workload of teachers, regional features, etc. However, under certain circumstances, the ration between the numbers of students and the number of universities in a given professional area can have a significant impact on the vitality of educational institutions or the accessibility of training in the relevant field. There are several imbalances of different nature and depth in the existing profile and territorial structure of higher education such as the demand and supply of educational services, graduates' realization on the labor market by the professional fields and specialties, etc. There are no any specific recommendations and guidelines in relation to digitalization of higher education, included in the National map.

With the purpose to explore the digital education transformation in Bulgaria, an internet research was conducted. It aimed at examining the online or distance education among the Bulgarian accredited universities, which are listed on the website of the National Agency for Assessment and Accreditation. Some of the first universities that introduced this type of learning in March 2020 were the American University in Blagoevgrad (AUBG); University of National and World Economy (UNWE); “St. Kliment Ohridski” Sofia University (SU); "Angel Kanchev" University of Ruse (UR); Technical University of Varna (TUV); Varna Free University (VFU), New Bulgarian University (NBU), Trakia University Stara Zagora (TRU), “Paisii Hilendarski” University of Plovdiv; “Todor Kableshkov” University of Transport (VTU) and others.

The most often used platforms by the universities in Bulgaria have been Moodle, Microsoft Teams, Zoom, Classroom Google, E-learning etc. The usage of different virtual platforms and instruments makes it difficult to establish a uniform criterion for efficiency assessment. Research

carried out by P. Dimov and Hr. Dobрева<sup>12</sup> outlines two main types of platforms and the differences between them. According to them, the platforms may be broadly divided in the following two types: for distance education and for online learning. In their words “The distance education usually works best with older students that have a constant access to technology at home and will work responsively by themselves. However, it needs a resource prepared in advance before the crisis as well as preliminary provision of all educational materials. That is why the online learning perfectly complements it and they should be both conducted together as a mix. The online learning has been built by systems for educational management called Learning Management Systems as both types of online learning: synchronous (happening at the same time for the teacher and the trained) and asynchronous (happening at any time and not necessarily in a group but with the feedback of a teacher) must complement each other. The online and the hybrid education present an opportunity for a more independent work, creativity and innovation”.

The internet research indicated that the sudden move to “emergency remote teaching”, as it is also described by the literature<sup>13</sup> was introduced by virtually all Bulgarian universities and that the university management staff considered the transition to online teaching as successful. Indeed, some sort of support, basically in the form of technical and training instructions, was provided to the teaching and learning process and in general the teaching staff managed to successfully adapt the teaching process to a virtual mode and on-line formats. No doubt, this transformation of teaching was most difficult in the fields of study such as medicine and arts in which the practical component is of critical important. Some universities run into a problem, connected with the capacity of individual institutions to deliver online classes in terms of technology and tools. This is an important factor that influences teaching and learning process and is an integral part of online infrastructure of any institution. Other factors, which are identified as technology access challenges, are weakness of internet connections or low internet speed and lack of necessary equipment for online teaching and learning such as computers, laptops and smartphones.

### **3. Illustration of University Approach to Digitalization of Education in Bulgaria**

The academic institutions in Bulgaria demonstrated resilience during the crisis and it can be illustrated by a number of good practices at university level. They represent examples of proactive and creative ways to rethink organization at the level of individual university and cover different aspects and areas of academic activities. Guidelines, recommendations and other relevant

---

12. Dimov, P., & Dobрева, Hr., 2021, COVID-19’s Impact upon the Organization of the Educational Process in the National Security System, AIP Conference Proceedings 2333, 050004 (2021), <https://aip.scitation.org/doi/pdf/10.1063/5.0041865>

13 Hodges, Ch., Moore, S., Lockee, B., Trust, T., & Bond, A., (2020), The Difference Between Emergency Remote Teaching and Online Learning, <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>



information in relation to the teaching process, volunteer initiatives, exchange and mobility, scientific events and projects has been published at the websites of institutions. Some universities have developed detailed documents and special instructions on the organization of their activities during the pandemic situation.

The pandemic has forced the higher education system to react quickly to transform learning. Nevertheless, digitalization in higher education is still seen as an additional challenge rather than an integral part of the provision of higher education in the digital world. Digital education is more than just digitizing learning materials. It is a process with enhanced flexibility and more personalization than the traditional forms of education. The change has revealed new and innovative ways for education for both students and their trainers. Some of the benefits of this change include the new approaches to organize the teaching and learning activities and to interact in a more personal and flexible way online. Learners have the opportunity to improve their knowledge and to gain qualities such as teamwork and communication, as well as to acquire skills in new areas due to the use of software and other digital technologies.

The experience of the University of National and World Economy (UNWE) shows that it was one of the most prepared for this transformation. It not only has followed the road of the newest trends and developments from the European commission action plan for the period 2021-2027, but has developed a specific document for university digitalization. Its main strategic document is the Strategy for Digitization of University of National and World economy 2022-2025, which was adopted by decision of the Academic council in May 2022.

The University is the first and the largest higher economic education institution in Bulgaria, with more than 100 years of history. It is not only economic university, but offers a wide variety of Bachelor, Masters and PhD programs in many spheres including technological disciplines as Business Informatics, Big Data, Artificial Intelligence, etc. In addition, the university offers a number of digitalized services. One of the main digital services in the UNWE is the student card combined with a bank card, which is patented by the Patent Office of Republic of Bulgaria. Among other digital services provided by the university are online library, online classrooms, Moodle (online resources, online open courses/online exams) MS Forms, online enrolling for semester, online application for scholarships, online Erasmus application, etc. The process for applying to student dormitories and issuing a certificate has also been digitized. Currently, students at the UNWE use 21 online services. Some of the digital services were motivated and activated because of the pandemic, and still, they are of great value, because they will help all students and lecturers in future and will make the development of the higher education institutions even better. On that base we may conclude that virtually all processes at the university have been digitized - from exams, through online announcements, to ranking and online registration.

Yet, there is another aspect to be taken into consideration. Both students and professors must be adapted to the era of digital transformation. This is necessary because, along with reading, writing and arithmetic, digital skills have become the next key competence for success of human education. The Bulgarian education system needs urgent measures to increase the digital skills of young people in real action. This can be done with the support of business and the civil sector, as their development depends to a large extent on the increased digital culture of employees in all sectors of the economy. In order for digital education to become a reality, the training of trainers must also be modernized. Digital education requires well-trained lecturers who can use digital media to transmit relevant information to students. This can include digital platforms, virtual or augmented reality, online libraries, or webinars. Digital media makes possible many new and innovative forms of teaching and learning in universities, professional institutions, and schools, as well as in corporate training and development programs.

Based on the illustration of the university approach and the research findings we may conclude that the higher education system in Bulgaria reacted quickly and efficiently in regard to the pandemic and this provided an opportunity to accelerate digital transformation of higher education, to provide a number of digitalized services and to improve the teaching and learning processes by adopting innovative and creative approaches. However, we have to admit that the quality of learning has been affected by the sudden shift from face-to-face to hybrid and to online teaching and it will take time to find out how the quality of learning has been affected and how to overcome the negative effects of digitalization in regard to the core academic activities – teaching and learning. To my mind, a better understanding of all effects – positive and negative - of the digital transformation on all aspects of higher education in Bulgaria is still needed in order to properly address measures to overcome the main deficits in the quality of digital education.

### **Conclusion**

The paper explores digital educational transformation in Bulgaria and confirms the common prevailing opinion that the pandemic brought serious challenges and various changes, which highly affected the system of higher education but undoubtedly accelerated the existing trend towards digital education. Like many other countries across the world, the education in Bulgaria entered into a new age when all educational institutions had to put in place new mechanisms, to adopt online and distance learning models and to make the best use of available resources and tools in order to continue their educational and training missions in the time of crisis.

The analysis covers various international and national initiatives, policy papers and programs for the ongoing digital transformation in the educational process and reveals that until the pandemic the education in Bulgaria had not been at the front-line of digitalization and its impact on education and training was much more limited.

The paper examines the current state of higher education system and identifies some structural problems and imbalances in the system. In general it is considered to be highly fragmented and digital transformation of education is seen as an additional challenge rather than an integral part of the provision of higher education in the digital world. At the same time in Bulgaria there is a high awareness among all involved in the education system of the benefits of digitalization and the role of government to support digital innovation in education.

Digital transformation is a complex process and covers many different academic aspects such as teaching and learning, research activities, community engagement, internalization or mobility, university management and university financial sustainability, as well as social dimensions of higher education. Different universities have had different IT competences and dynamics, various equipment, but they all have been forced to realize that there is need of rapid digitalization and digital transformation of all processes – from administration through teaching, learning, and examining the students.

The paper also presents an illustration of a proactive approach to digitalize education and to provide digitalized services followed by a leading Bulgarian university. This approach is based on following the road of the newest European trends and developments for digital education and on developing a specific strategy for university digitalization.

Therefore, we may conclude that the quick and efficient reaction of the higher education system in Bulgaria to the pandemic provided an opportunity to intensify and speed up digital transformation of education, to offer a number of digitalized services and to improve the teaching and learning processes by adopting innovative and creative approaches. However, there are signs and indications that the quality of learning has been affected by the shift to online teaching and we need to find and address proper measures to overcome the deficits in the quality of digital education and to maximize benefits of educational digitalization.

## **References**

Māra Jākobsone, Bulgaria - Digital Bulgaria 2025 National Programme, <https://digital-skillsjobs.europa.eu/en/actions/national-initiatives/national-strategies/bulgaria-digital-bulgaria-2025-national-programme>, 2021

Digital Bulgaria 2025 National Programme, at <https://digital-skills-jobs.europa.eu/en/actions/national-initiatives/national-strategies/bulgaria-digital-bulgaria-2025-national-programme>

Draft National Program "Digital Bulgaria 2025",

<https://www.mtict.government.bg/en/category/85/draft-national-program-digital-bulgaria-2025>

Bulgaria, Ministry of Health, 2020, 'Kiril Ananiev: The Bulgarian health authorities have taken all preventative measures in relation to the spread of the new coronavirus', Press release, 1 February 2020. <https://www.mh.government.bg/bg/novini/aktualno/kiril-ananiev-blgarskite-zdravni-vlasti-savzeli-v/>

Bulgaria, National Assembly, Decision of declaring state of emergency, 13 March 2020. <https://dv.parliament.bg/DVWeb/showMaterialDV.jsp?idMat=146931>

Bulgaria, Measures and Activities during the State of Emergency Declared by Decision of the National Assembly of 13 March 2020 Act, 24 March 2020. <https://dv.parliament.bg/DVWeb/showMaterialDV.jsp?idMat=147150>

Bulgaria, National Evaluation and Accreditation Agency, List of Accredited higher education institutions, <https://www.neaa.government.bg/en/accredited-higher-education-institutions/higher-institutions>

Council of Europe, Higher Education, Series No. 25, 2021, Higher education's response to the Covid-19 pandemic: Building a more sustainable and democratic future, (eds) Sjur Bergan, Tony Gallagher, Ira Harkavy, Ronaldo Munck and Hilligje van't Land, at <https://rm.coe.int/prems-006821-eng-2508-higher-education-series-no-25/1680a19fe2>

Digital strategies in education across OECD countries: Exploring education policies on digital technologies, OECD Education Working Papers No 226, Directorate for Education and Skills, OECD, 2020, at <https://www.oecd-ilibrary.org/docserver/33dd4c26-en.pdf?expires=1679835839&id=id&accname=guest&checksum=A9EB345B23CB7AD109351B6895F42968>

Dimov, P., and Dobreva, Hr., 2021, COVID-19's Impact upon the Organization of the Educational Process in the National Security System, AIP Conference Proceedings 2333, 050004 (2021), <https://aip.scitation.org/doi/pdf/10.1063/5.0041865>

EU, Digital Education Plan 2021-2027: Ressetting Education and Training for Digital Age, at <https://education.ec.europa.eu/focus-topics/digital-education/action-plan?>

European Commission, Directorate-General for Education, Youth, Sport and Culture, Farnell, T., Skledar Matijević, A., Šćukanec Schmidt, N., 2021, The impact of COVID-19 on higher education: A review of emerging evidence: Analytical report, Publications Office, 2021, at <https://data.europa.eu/doi/10.2766/069216>

Hodges, Ch., Moore, S., Lockee, B., Trust, T., and Bond, A., 2020, The Difference Between Emergency Remote Teaching and Online Learning, <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>

Kai Beckmann, 2018, The importance of digital education, at [https://www.merckgroup.com/en/the-future-transformation/digital\\_education.html](https://www.merckgroup.com/en/the-future-transformation/digital_education.html)

Katsamunska, P., (2023), The Covid-19 pandemic and the new age of higher education: the experience of Bulgaria, In: Economic Alternatives, vol. 29, issue 1, University of National and World Economy, ISSN: 1312-7462, ISSN (online): 2367-9409

UNESCO, <https://en.unesco.org/themes/higher-education/digital>

UNESCO Strategy on Technological Innovation in Education (2022-2025) at <https://unesdoc.unesco.org/ark:/48223/pf0000378847> [Accessed 26 March 2022]

Updated National map of higher education in Republic of Bulgaria for 2022, adopted by Decision No. 32 of The Council of Ministers from 12 January 2023, at <https://web.mon.bg/bg/101031>

University of National and World Economy, Instructions on the organization of the activity at the UNWE in the conditions of declared state of emergency or declared extraordinary epidemic situation, at [https://www.unwe.bg/Uploads/Main/09e7a\\_Instruction-COVID-19-EN.pdf](https://www.unwe.bg/Uploads/Main/09e7a_Instruction-COVID-19-EN.pdf)

World Bank Group Report, Higher Education in Bulgaria: Situation Analysis and Policy Direction Recommendations (PILLAR 2: Support for Building an Evidence-Based Approach for the National Strategic Framework in Education 2030, BG05M2OP001-4.001-0008 "Provision of information and publicity activities of the Operational Programme Science and Education for Smart Growth, evaluations and studies of Operational Programme Science and Education for Smart Growth and preparation for the next programming period" under priority axis 4 "Technical Assistance" of the Operational Programme Science and Education for Smart Growth") at [https://www.eufunds.bg/sites/default/files/uploads/opseig/docs/2021-08/EN\\_HE\\_June\\_22.pdf](https://www.eufunds.bg/sites/default/files/uploads/opseig/docs/2021-08/EN_HE_June_22.pdf)