

Covid-19 Impacts and Challenges to E-Learning in Modern Universities: The Experience of UARD

Ekaterina Arabska

University of Agribusiness and Rural Development, Plovdiv, Bulgaria

ORCID: 0000-0001-6992-4867

earabska@uard.bg

ABSTRACT

The rise of the COVID-19 pandemic rendered tremendous impacts on the whole society and has changed and still changing our lives for years. One of the most discussed problems concerns physical health, economies, social issues, relations, etc. and not least - the new developments in the educational systems targeting innovative e-learning and distant learning solutions and their implementation. In this context, the higher education system is experiencing a transition trying to maintain the needed effectiveness and quality of training which affects all the involved parties.

Current paper makes a short overview of modern challenges to the Bulgarian higher education system and presents the experience of the University of Agribusiness and Rural Development in undertaking the transition to a new e-learning system in the times of coronavirus pandemic. Recommendations and implications on future challenges and development are provided concerning the opportunities for combining e-learning with auditoria load, practical trainings and functioning of the quality assurance system.

Doi: 10.17932/EJOSS.2021.023/ejoss_v02i1007

Keywords: *Coronavirus, Pandemic, Crisis, Education, E-Learning.*

INTRODUCTION

In recent years, the higher education system in the Republic of Bulgaria has undergone significant changes under the influence of a number of external and internal factors, some of which were further intensified by the COVID-19 pandemics.

The Strategy for the development of higher education in the Republic of Bulgaria for the period 2021 – 2030 defines a number of challenges arising from changes outside the field of higher education (HE) in the Republic of Bulgaria as follows:

- ✓ *Accelerating dynamics of the labor market in the new social and economic environment*

In recent years, there has been an accelerating and difficult to predict labor market dynamics. Technological changes and the speed of innovation significantly change the requirements for the competencies necessary for the labor market. A number of traditional professions are disappearing and new ones are appearing, with an increased demand for professions requiring high analytical and social skills and non-routine professions in the field of service and social support. The competition for labor and talent today is global. All these processes are accompanied by an increase in social inequalities on a global scale and difficulties in including certain groups in the labor market.

Main challenges related to the accelerating dynamics of the labor market:

- ✓ Mismatch between the needs of the labor market and the nature of the training received in higher education in terms of both knowledge (need for interdisciplinary knowledge and interdisciplinary training) and skills and competencies (need to focus the educa-

tional process on the acquisition of analytical, digital and social competences).

- ✓ The need to create a permanent and effective mechanism for timely changes in curricula in view of the dynamic labor market and social development.
- ✓ Need to develop more flexible forms of education, as well as forms of training with the active participation of business representatives.
- ✓ Lag in time and lack of flexibility in the introduction and management of modern disciplines and specialties.
- ✓ The need to promote lifelong learning as a priority in the development of higher education.
- ✓ The need to ensure high qualification of the entire academic staff by constantly updating the knowledge, skills and competencies of teachers.
- ✓ *Increasing the role of science and innovation for the development of a competitive economy and for solving social problems*

Higher education has a particularly important role in these processes in several aspects - developing new knowledge, using existing knowledge to develop innovations and competitive technologies, forming an entrepreneurial spirit, supporting companies, administration and politicians to competently and scientifically sound solutions to the challenges they face.

- ✓ The need to develop human and material resources in universities, taking into account their traditions and regional characteristics, to provide the necessary base, knowledge and skills for the development of science and to solve important scientific and applied research problems in different areas of economic and social life.

- ✓ Need for activation of the scientific and scientific-applied activity in the higher schools through additional development and appropriate balancing of the institutional, program and competitive forms for public financing, as well as of the project activity with company financing.
- ✓ The need for full implementation of the rules of scientific ethics and the principles of transparency, open science and open innovation.
- ✓ Need to stimulate more active involvement of teachers and students in solving practical problems, which requires a variety of mechanisms and incentives, incl. by using target criteria for academic growth, improving the rules for salary formation, removing obstacles to private funding of applied research projects, regulating mixed public-private funding of doctoral students, etc.
- ✓ Need for introduction of quality practical training in innovation and entrepreneurship in all professional fields to build an entrepreneurial culture in the next generations of professionals.
- ✓ Improving the mechanisms for planning, management and coordination of the scientific and innovation process, as well as the tools for sustainable and effective development of the Bulgarian scientific and innovation ecosystem.
- ✓ *Universal digitalization and development of educational systems that complement or are alternatives to classical higher education*

The need for urgent digitalisation of education, caused by the outbreak of the COVID-19 pandemic in 2020, only illustrates how urgent and important changes are in higher education and in all other spheres of life in this direction. What seems to be imposed by an emergency today may turn out

to be a widespread practice in the coming years. At the same time, digitalization does not eliminate the need for direct personal contact between the teacher and students - it rather changes the goals and content of this contact (eg ways of exchanging, analyzing and interpreting information), and hence modifies the roles of participants and its organization.

In recent years, digitalization has become a key tool for providing access to better HEIs, for greater internationalization and for modernizing teaching methods in line with the attitudes and interests of the younger generations. Digitalization, if implemented correctly and with the care of the student, can address one of the most difficult problems of modern higher education, namely to provide quality education at lower costs, which are within the capabilities of a much larger number of students, with different social backgrounds.

✓ *Intensifying the global supply of higher education services (European Higher Education Area)*

The European Higher Education Area seeks to promote and stimulate mobility and cooperation in the field of education and training and to assist the EU Member States in modernizing their education and training systems.

✓ *Population aging and changes in the age structure*

- ✓ Reducing the number of prospective students.
- ✓ Reducing the criteria for admission to higher education.
- ✓ Lowering the criteria for students during the training due to the mass admission and hence - the quality of education.
- ✓ Need to orient the candidate student campaigns and the overall organization of higher education not only to the immediate graduates of secondary schools, but also to non-traditional learners through

the development of forms of lifelong learning, dual education, opportunities for combining learning and work and / or family commitments, etc.

✓ *Change in the role, goals and functions of higher education*

Today, universities around the world face challenges that affect not only their functioning but also their very identity as institutions. The development of information technologies, the transition from elite to mass and even universal higher education, the rapidly changing and open labor market cause changes in the role and functions of higher education.

Differentiating the mission, profile and territorial significance of higher education is seen as a means of adapting to the growing and increasingly diverse labor market requirements for a highly skilled workforce. In some cases, however, the purely instrumental role of higher education is affirmed and it is subordinated entirely to the needs of the labor market. This diminishes the role of higher education as a scientific and spiritual institution, which at the same time has significant general social functions.

The traditional model of higher education, based on classroom classes, faces serious competition from mass open online courses (MOOCs), as well as educational programs and practice-oriented courses offered by various platforms and organizations.

- ✓ Lack of clarity in the strategic visions of higher education institutions regarding their main functions related to education and training, the development of basic and applied research, innovation and entrepreneurial skills and the social responsibilities of higher education (including national, regional and European).
- ✓ Difficulties in achieving a balance between the growing and different in nature social requirements for and expectations from higher

education.

- ✓ Insufficient competitiveness in terms of rapid development of the market of educational services and lack of sufficient flexibility in the proposed forms of education.

Strategy for development of higher education in the Republic of Bulgaria for the period 2021 – 2030 determines the following challenges arising from processes within the field of higher education in the Republic of Bulgaria:

- ✓ *Lagging behind the trends in European higher education and weak internationalization of Bulgarian higher education*
- ✓ Insufficient international prestige of the Bulgarian universities and lack of recognizable competitive advantages of the Bulgarian higher education.
- ✓ Low intensity of scientific research, which leads to the achievement of internationally visible scientific results.
- ✓ Increased interest of Bulgarian high school graduates to study abroad.
- ✓ Insufficient effectiveness of existing contracts for joint programs with foreign universities.
- ✓ A small number of offered specialties and programs in a foreign language and in distance learning in many universities.
- ✓ Legislation that does not fully take into account the specifics of distance learning, which makes it difficult to attract foreign students in this form.
- ✓ Relatively small number of participations in international research projects and networks.

- ✓ Insufficient skills to work in an international environment by some teachers and some administration in higher education.
- ✓ Insufficiently effective and often formal implementation of the instruments of the Bologna process, incl. the European credit accumulation and transfer system and opportunities for academic mobility.
- ✓ Quality and access to education in the conditions of mass HE and demographic crisis

The need to combine the mass HE as a global trend that has proven its benefits for the development of the economy and society, with an effective system of incentives and restrictive measures to continuously improve quality, taking into account the specifics of goals, motivation and opportunities of students. As a whole, there is a lack of measures for solving the financial and social problems in some HEIs, which arose as a result of the reform, as well as measures for optimizing the network of HEIs in the country.

- ✓ *Lack of compliance with the needs of the digital generation and with the competencies necessary for successful implementation in the conditions of technological revolution*
- ✓ Educational systems find it difficult to adapt to rapid changes in technology - not only in terms of how technology is used, but also in the teaching of skills and teacher training.
- ✓ Lack of methods for assessing digital skills.
- ✓ The current education system does not support (from an early age and throughout life) a well-balanced set of skills and competencies that guide citizens to the useful interaction between relevant digital and life skills, as well as to key competencies, in particular personal, social and entrepreneurial skills).

- ✓ The digital transformation of production and service technologies is not accompanied by educational reform that will allow citizens to make the transition to new professional and social roles.
- ✓ Citizens are not prepared for lifelong learning in a world that is changing faster and more digital.
- ✓ Very high capacity broadband networks, cybersecurity and artificial intelligence are not yet the basis for future forms of education and training.
- ✓ Massive lack of basic information protection skills to avoid the risk of fraud and fake news online and on social networks.
- ✓ *Insufficient support and insufficient development of research as an integral part of higher education*
- ✓ Need to include research as an integral part of the learning process through its various forms - conducting experiments, theoretical and computer modeling, design and implementation of prototypes, communication for specialized and non-specialized audiences, etc.
- ✓ The need to improve and strengthen the role of the system of objective indicators for evaluation of scientific and applied research activities of higher education institutions and researchers, in accordance with the specifics of the respective scientific field.
- ✓ Need for intensification of the international exchange of students and teachers for exchange of ideas, methods and experience, as well as for conducting joint research with partners from leading scientific institutions.
- ✓ Constant development in terms of efficiency and volume of the various forms of financing the scientific and innovative activity

- institutional, program, competitive, through public-private partnership, financial instruments, etc.
- ✓ Development and implementation of policies for open access to the results of publicly funded research in order to promote them and their widespread use.

Among other challenges there should be also mentioned the following: difficulties in the selection, development and motivation of teachers; challenges related to the management of HEIs; need for effective and objective accreditation, as well as to recognition procedures; incomplete involvement in the development of economic centers in the country; development of the quadruple helix: university-industry-government-public environment, etc.

The Strategy for development of higher education in the Republic of Bulgaria for the period 2021 – 2030 defines the following vision for the development of higher education in the Republic of Bulgaria: *Development of a differentiated and flexible system of higher education institutions that function as successful partners and competitors of European universities and fulfill an educational, research and cultural mission for the benefit of society and individuals by conducting basic and applied research and by providing quality, accessible and lifelong education and training for successful personal, professional and social realization. Building an academic community that shares common principles, values and moral norms.*

The priority areas for the development of higher education are:

- ✓ Improving the quality of higher education by updating the content, methods and forms of education;
- ✓ Accelerated modernization and digitalization of educational ap-

proaches, methods and practices;

- ✓ Providing access to higher education and lifelong learning with high quality, which supports personal development and professional realization;
- ✓ Development of basic and applied research, innovation and entrepreneurial skills of students and teachers, and transformation of research and innovation into an integral part of higher education.
- ✓ Full use of the scientific and innovative potential of higher education institutions and increasing their role for accelerated economic development and for solving important social problems at national and regional level;
- ✓ Accelerated internationalization and full integration into European educational and research networks;
- ✓ Attracting quality motivated young teachers for renewal and development of the academic staff.
- ✓ Improving the structure, management and accreditation system of higher education institutions.
- ✓ Ensuring financial sustainability of higher education institutions and financial incentives for the development of quality education and research;
- ✓ Ensuring transparency and accountability in the management of the system and in higher education;
- ✓ Ensuring partnership with other scientific organizations in Bulgaria for conducting basic and applied research at a high level and for general educational programs.

The specific goals for the development of higher education in the Republic of Bulgaria by 2030 are:

- ✓ Development of a sustainable mechanism for updating existing and creating new curricula;
- ✓ Introduction of modern, flexible and effective forms and methods of training;
- ✓ Improving the organization and effectiveness of education in higher education;
- ✓ Internationalization of higher education and inclusion in international educational and scientific networks;
- ✓ Stimulating the participation of young teachers;
- ✓ Activation of scientific activity in higher schools;
- ✓ Building an effective education-science-business relationship;
- ✓ Increasing the role of HEIs as an active factor for regional development;
- ✓ Improving the management of HEIs and the evaluation and accreditation system;
- ✓ Improving the structure and efficiency of higher education.

Current paper will present part of the experience of University of Agribusiness and Rural Development (UARD) in the conditions and challenges, as described above, focusing on the impacts of the coronavirus pandemics from last year till now and the changes in the application of e-learning, assessed by the opinions of UARD students.

RESULTS AND DISCUSSION

University of Agribusiness and Rural Development (UARD) has a great experience in e-learning and distant learning (having a center functioning for more than 20 years), especially through the work under a number of projects implemented under Erasmus and Erasmus+ Programs (Additional information: <http://uard.bg/en/pages/view/30>). The last showed successful applications of e-learning systems in training, particularly in lifelong learning. Furthermore, along with the main campus in Plovdiv, UARD has a network of branches and local centers for distant learning all over the country.

Considering this experience, in 2020, after the COVID-19 outbreak and first wave in the spring, in September for the new semester UARD changed its e-learning system implemented through the information services system (<http://isao.vuarr.com/>) to a new one which is Moodle-based and it was named UARD E-university: <https://uni.e-uard>.

Moreover, since November 2020, UARD has started the implementation of a new Erasmus+ project under the initiative of European universities, namely the European University Alliance Innovations for Regional Sustainability (INVEST) - <https://invest-alliance.eu/>. INVEST will be developed as a new model of a European university applying the following innovative concepts: INVEST Virtual campus, EDUC8EU and Living labs.

Thus, e-learning and virtual mobilities will be in the focus in next years and the university tries to find the best solutions for assuring the necessary quality of training and to improve the existing practices.

In February 2021, after nearly one year of e-learning for all the students (studying from distance, from their homes, without any personal physical contact with teachers in the university, a study was performed through a structured questionnaire in the UARD E-university embracing 110 stu-

dents in the second year of their study in the following Bachelor programs: Business management, Finance, Accounting, Agrarian economy, Agribusiness management.

The first two questions were about the e-learning and its application. Most of the students (68%) think that e-learning is a good alternative during the COVID-19 pandemics but should not be applied out of emergencies (Fig. 1). 66% state that it should be applied in combination with traditional forms (Fig. 2). A lower number of students consider e-learning as the future of higher education that could be applied not only in emergencies – 32% (Fig. 1), 31% point that it can be applied alone, #% - it should not be applied in higher education at all (Fig. 2).

According to the students' opinion the advantages of e-learning are connected to the facts that it saves money and time and it provides more opportunities for self-preparation (Fig. 3), and disadvantages – mainly in the lack of the personal contact and the difficulties experienced in carrying out practical training (Fig. 4).

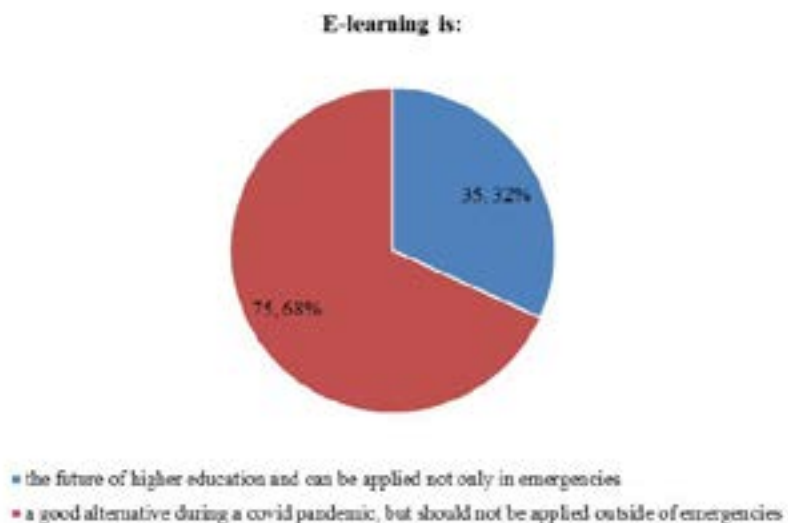


Fig. 1. What is e-learning and the future of training?

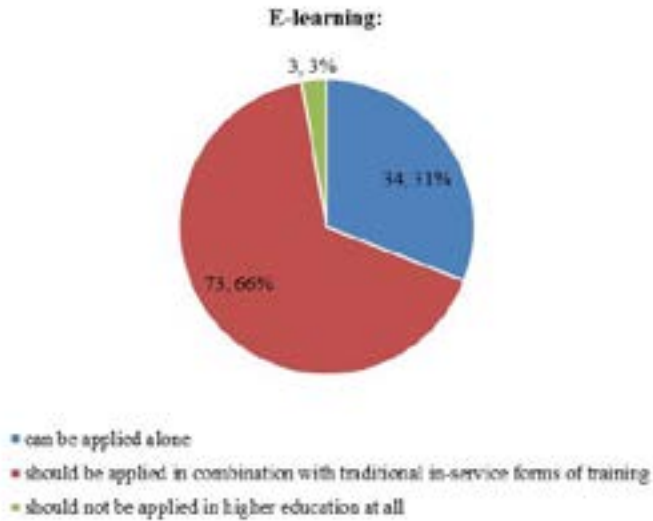


Fig. 2. The application of e-learning and traditional learning methods

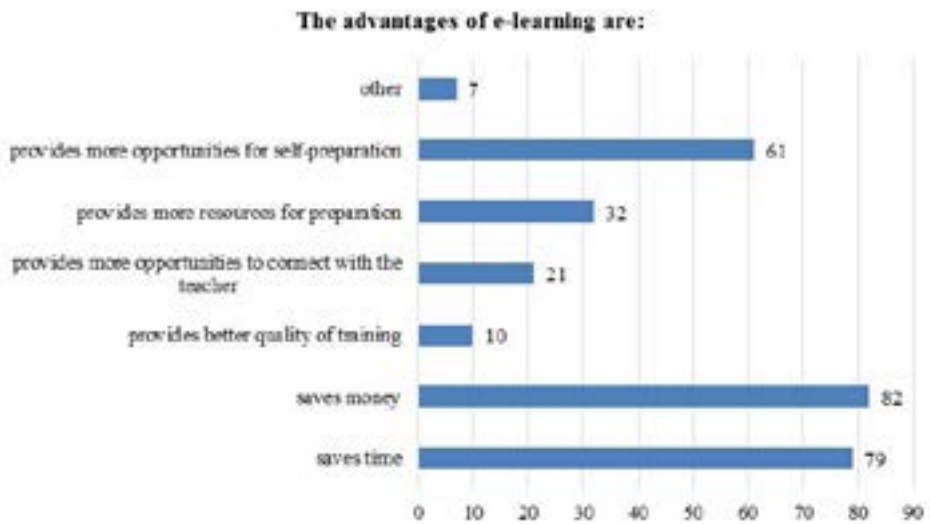


Fig. 3. Advantages of e-learning

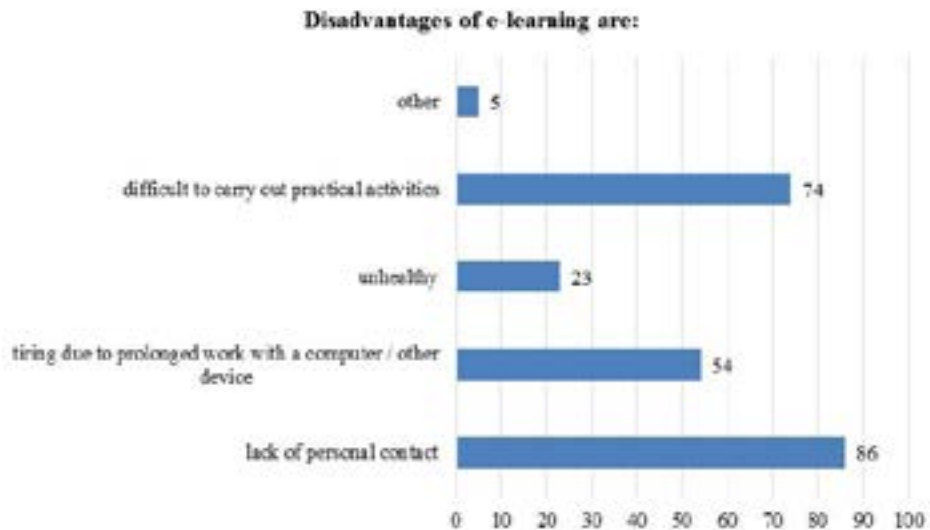


Fig. 4. Disadvantages of e-learning

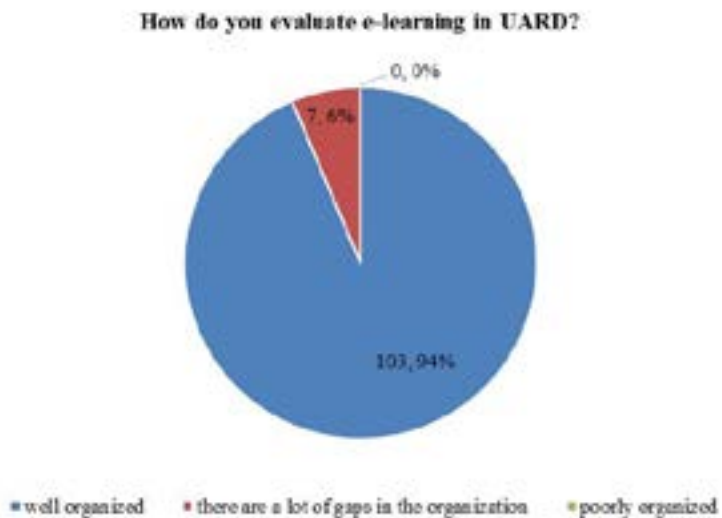


Fig. 5. Organization of e-learning in UARD

If you had a choice, would you enroll in all disciplines in e-learning forms from distance?

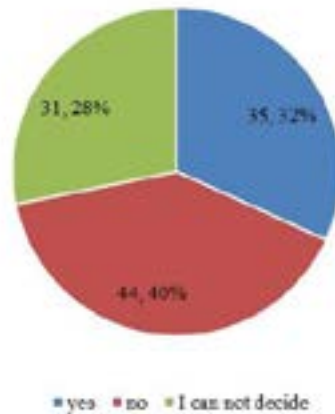


Fig. 6. Choice of enrollment in e-learning

Most of the students think that e-learning in UARD is well-organized – 94% (Fig. 5) but if they had a choice, it will be difficult to decide about taking all the disciplines in the e-learning form (Fig. 6).

The open question about what students liked in e-learning showed the following main statements:

- ✓ saving time and money for transport, etc.;
- ✓ accessible platform;
- ✓ convenience is that we do not have to travel to the university and we have more time to prepare;
- ✓ teaching, the assistance of administrators;
- ✓ good organization;

- ✓ lecture recordings that can be viewed at a convenient time;
- ✓ the combination of work and study;
- ✓ learning from home;
- ✓ opportunity to take care of children at home;
- ✓ more materials and preparation time;
- ✓ the ability to organize time independently;
- ✓ more opportunities to focus;
- ✓ the possibility of training in a pandemic.

The open question about what students didn't like in e-learning presented the following opinions:

- ✓ lack of personal contact with teachers and students;
- ✓ technical problems that arise;
- ✓ quite tiring sometimes;
- ✓ difficulties in practical activities;
- ✓ lack of direct communication;
- ✓ lack of a sense of "student" life;
- ✓ more stressful;
- ✓ there are none;

Additional opinions, comments and recommendations were:

- ✓ very convenient
- ✓ more practical assignments

- ✓ improvement in planning regarding time
- ✓ some organizational issues to be solved
- ✓ not suitable for a permanent use
- ✓ more interactive materials and training
- ✓ to be combined with some in-place trainings (“physical”)
- ✓ a good platform
- ✓ when out of coronavirus to turn back to traditional forms
- ✓ teachers are very responsive
- ✓ e-learning is not a full-fledged alternative to the traditional learning in auditoria
- ✓ based on the personal motivation for learning and development
- ✓ no recommendations.

Summarizing, the results of the study show a very good acceptance and understanding of the application of e-learning in the situation of the coronavirus pandemics and a certain extent of will and readiness to continue with e-learning forms but at the same time the lack of the personal contacts with teachers and students in auditoria and the difficulties with practical work need additional implications, incl. in the terms of quality assurance and accreditation.

CONCLUSION AND RECOMMENDATIONS

Discussing the future development of higher education institutions in Bulgaria, and UARD in particular, in times of COVID-19 but also in the realities of Society 5.0, some of the most important modern challenges in the development of the higher education system in Bulgaria should be con-

sidered: dynamics in economic and social environment; labor market requirements; increasing role of science and innovation for the development of a competitive economy and solutions for social problems; digitalization processes and development of new educational systems; European higher education area and the global supply of educational services; aging population and demographic issues; change in the role, functions and goals of the higher education system; career development and motivation of staff; management of higher education institutions; accreditation procedures; recognition procedures; the quadruple helix: university-industry-government-public environment, etc.

The new vision imposes the elaboration and the implementation of a new sustainable mechanism for improvement of existing and development of new programs and curricula; modern, flexible and effective methods of training; raising quality of training and access; internationalization and inclusion in international educational and scientific networks; motivating young teachers / scientists; encouraging R&D and innovation; education-science-business relationship; HEIs as a factor in regional development; management and accreditation issues, funding; structure and effectiveness, responsibility and transparency; flexibility, life-long learning; common principles and values, etc.

What will be important in the near future (as the world will not be the same as before) is to search for ways to combine e-learning with auditoria load and to organize practical trainings. Some of the most significant questions will be connected to the satisfaction of students, teachers, administrative staff and all other interested parties in business and society, especially regarding the problems of quality assurance.

REFERENCES

- [1] INVEST - European University Alliance: Innovations for Regional Sustainability - <https://invest-alliance.eu/>
- [2] Strategy for development of higher education in the Republic of Bulgaria for the period 2021 - 2030
- [3] UARD E-university: <https://uni.e-uard>
- [4] UARD Information system: <http://isao.vuarr.com/>
- [5] UARD official web-site. Projects' menu: <http://uard.bg/en/pages/view/30>