Teaching online in Higher Education Institutions in Romania

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1. Introduction

Since the fall of communism on December 1989, the Romanian educational system has been in a continuous reforming process. Currently, the education system is regulated by The Ministry of Education (MoE) according to the Law on National Education passed in 2011 subsequently amended in the last 10 years.

Figure 1. Structure of the national education system
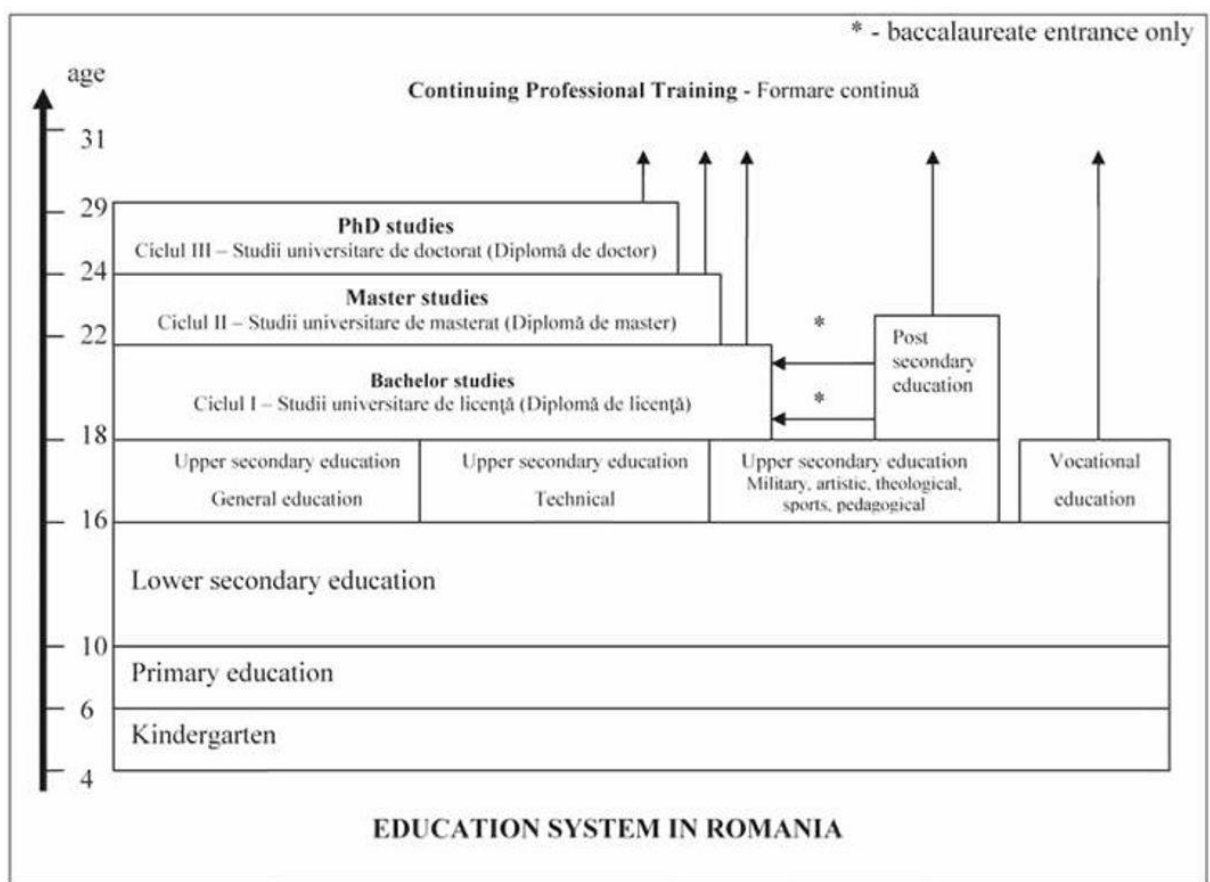
According to GD 299/2020, the Romanian higher education system is structured in 6 fundamental fields that represent 34 branches of science, 79 doctorate / master domains, 88 bachelor domains, 383 specializations / bachelor programs. These are offered in 46 comprehensive, medical and polytechnic state universities, 7 military academies, 37 private universities, of which 6 are temporarily accredited. In Romania,

there are also multicultural and multilingual universities providing higher education for the national minorities (e.g. Babeș-Bolyai University of Cluj-Napoca offers courses in Romanian, Hungarian, and German; the University of Medicine and Pharmacy of Târgu-Mureş and the University of Arts of Târgu-Mureş, both offer courses in Romanian and Hungarian).

Since 1999 Romania is part of the Bologna process, so since the 2005-2006 academic year all higher education programs are structured in three cycles:

- 1st cycle (BA: bachelor's degree) - 3years (4 years for some programs like engineering or law)
- 2nd cycle (MA: master's degree) - 2 years
- 3rd cycle (PhD: doctoral degree) - 3 years

EU regulated professions can include BA of 5 or 6 years such as: Medical, Pharmaceutical, Dental, Veterinary or Architectural studies.

According to the government emergency ordinance regarding quality assurance in education, no. 75/2005, approved by the law no. 87/2006, the methodology of quality assurance in education stipulates that quality assurance is mainly focused on learning results. The results of learning are expressed in terms of knowledge, competences, values and attitudes, which can be obtained by following and finalizing a level of education or a study program.

Romanian HEIs are autonomous and have the right to establish and implement their own policies, in compliance with the law. HEIs are state-budgeted based on annual individual contracts signed between the MoE and the HEI, setting the enrolment quota financed by the state budget for all education levels. Additionally, HEIs may enroll a number of self-paying students, exceeding the number of state-funded places, meaning they pay a fee established by each university. Each university may decide upon the structure, but in general the academic year starts in the first week of October and is divided into two semesters (14 weeks each, except the last semester which is

12 weeks). The holidays include a summer holiday (typically from July until late September), a Christmas holiday (2 weeks), an Easter holiday (associated with the Orthodox Easter – 1 week) and a short holiday (usually one week) at the end of the first semester. Examinations take place at the end of each semester followed by a re-examination period.

As in most countries of the world and in Romania since March 2020, the "COVID-19" crisis has reconfigured educational practices from "face-to-face" interactions to the online environment. The state of emergency was declared on March 16, 2020, for an initial period of 30 days and then prolonged until May 14, 2020. Afterwards, the state of alert was declared on May 15, 2020 initially for a period of 30 days and subsequently renewed by the Decisions of Government for additional periods of 30 days until present[1]. Such measures have had a strong impact on education, resulting in periods of physical closure of universities, and pressuring national and local educational stakeholders to take specific measures to an unprecedented series of challenges such as how to mitigate learning losses, how to deploy remote learning and how to safely reopen universities (UNESCO, UNICEF, World Bank 2020).

The strategies and measures taken regarding the continuation of the educational process at higher education levels were based on the autonomy of the universities and the decisions being communicated by the central authority (MoE). In the first phase, universities suspended all face-to-face activities for two weeks (March 11-22, 2020). Then the decision was extended until the Easter holiday (May 2020) and later, until the beginning of next academic year[2] (Roman and Plopeanu 2021). It is estimated that this measure affected around 543,000 students. During this period, most universities continued the educational programs on their existing online learning platforms (Holotescu, et al. 2020) while the Government, through the Ministry of Education, has

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[1] The most recent extension was approved on August 5, 2021

[2] A final decision regarding the 2021-2022 academic year has not been taken yet. Some universities have declared that they will resume their in-person activities, but the conditions how this will take form in long term are still unclear.

taken a series of measures to assure continuity of the educational process (Molea and Năstasă 2020). The "urgent" character in which this transition to online education was made, generated a multitude of challenges among all the actors involved in the instructive-educational process. These challenges highlighted the role of digital education as a key objective for high-quality teaching, learning and assessment, accessibility and conduciveness to social and digital inclusion.

2. Methodology and concepts

In terms of methodology, this report builds on available literature review in Romanian and English (see bibliography). A systematic approach was used to identify the articles related to the subject of interest. Selection of articles was made using several key-words (College; coronavirus; higher education; open access database; pandemic; systematic review; university) published during 2020 - July 2021.

Key-Concepts:
- *Online education / Online school* - a form of education supported by all digital tools and based on the use of the Internet as a primary condition in the conduct of the instructional-educational process (Limiansi, et al., 2020).
- *Digital learning* - a more general concept than online education, in terms of pedagogical tool which refers to the inclusion of digital tools and communication technology in the instructional-educational process (Basilaia and Kvavadze 2020).
- *E-Learning* - covers the terms used to define "technology-assisted learning" and refers to technology-based learning through the use of websites, learning portals, video conferencing, You Tube, mobile applications or other types of digital tools (Jowsey, et al., 2020; Murphy, 2020., Azzi-Huck & Shmis, 2020).

- *Blended / Hybrid learning* - combines the two modes of learning - traditional, face to face, and the other types: online education, e-Learning, etc. (Rasheed, et al. 2020).
- *Digital inequalities* - "the gap between individuals, households, businesses and geographical areas at different socio-economic levels, both in terms of their opportunities to access information and communication technologies and the use of the Internet for a wide variety of activities." OECD (2001)

3. Romanian higher education system during the COVID-19 crisis

Overall, the COVID-19 crisis has affected institutions, students, and teachers in many ways. Although there was not a similar response to the pandemic across countries, the struggle of teachers and supporting staff at all levels of the educational system was similar. It has been a challenge to provide a resemblance of a learning routine for students, while also offering an appropriate support system for university teachers and staff (Edelhauser and Lupu-Dima 2020).

3.1. Digital preparedness of higher education

In Romania, distance learning (DL) has often been based on eLearning platforms, and since 1995, when the DL education system appeared in Romania, by 2007 over half of Romanian universities (58%) declared that they used eLearning solutions in didactic and non-didactic activities. However, the pandemic surprised most of the teachers and students who were very unfamiliar with online learning platforms, by forcing them to move in a very short time from traditional learning to online learning exclusively.

Today, Romanian universities largely have eLearning platforms generally based on the most popular LMS-Moodle platform or on the most popular collaborative educational

platforms designed by Microsoft and Google, which contain mail group modules, virtual classes, video conferencing, presentations and testing. The quality of the platform used in the educational process has a favorable effect on the performance of students in online education.

Most Romanian universities have adopted a mixed strategy for implementing virtual education in the context of the attractive educational offers from Microsoft and Google on the basis of the existence of specializations, authorized for distance learning or part-time education but also using their own platforms already developed. Thus, for example Gheorghe Asachi University of Iasi uses both educational platforms. The Technical University of Cluj Napoca and Politehnica Bucharest chose the Microsoft platform - Microsoft 365 A1. Lucian Blaga University of Sibiu and the University of Craiova opted for Google G Suite. Politehnica Timișoara opted for its own virtual campus variant, and the University from Oradea and Transilvania University of Brasov have chosen to develop online courses on a Moodle platform.

Using ICT tools is usually associated with using the Internet. The growing number of households with Internet access is a positive tendency in Romania. According to the data provided by the National Institute of Statistics, in 2017 (the most recent data collected), 65.5% of the Romanian population had access to a computer in the household, the share being 96% among pupils and students. Recent statistical data from Eurostat (2019) focused on the availability of information and communication technologies (ICTs) and their use by individuals within households; presenting that 84% of the Romanian households have internet access. The average at the EU level is 90%.

In the absence of data strictly targeting the student population, we looked at the age group 20-24 to have a rough picture (which still remains inaccurate) on the use of the Internet by the population we target. Table 1 briefly summarizes the percentages of those who mentioned that they used the internet in the last 3 months.

Table 1. Internet users in Romania

% Internet users in the last 3 months					
		2011	**2016**	**2018**	**2020**
20-24 years	**EU level**	91%	96%	97%	98%
	RO	66%	87%	94%	95%
16-74 years	**EU level**	69%	80%	84%	88%
	RO	40%	60%	71%	78%

Source: Eurostat, generated by the authors

Although the degree of internet use among the population in Romania is close to the average in the EU member states, and the degree of endowment of housing with a computer among pupils and students is high, in terms of digital skills, things differ significantly. Thus, according to Eurostat in 2019, only 31% of Romanians had average or above average digital skills, positioning us in the weakest position among EU countries. Among EU Member States, Romania had the lowest share of individuals aged 16 to 24 with basic or above basic overall digital skills (56%). By contrast, the highest shares were observed in Croatia (97%), followed by Estonia, Lithuania and Netherlands (all three 93%).

According to Eurostat 43% of Romanians, aged 16-74, had low digital skills in 2019. The country stood in last place in the EU. Bulgaria ranked next to last with 38%. Every year, the number of people with low digital skills is increasing in Romania. In 2015, only 29 percent of the population had low digital skills, but this then grew by 3% in the following two years, reaching 35% by 2017 and now standing at 43%. Last year, the lowest percentage of people with low digital skills in the EU was registered in the Netherlands (16%). The EU average was 29%, 14% lower than in Romania. Fortunately, the number of people with basic or above-basic digital skills is increasing: from 26% registered in 2015 to 28% in 2016, then reaching 29% in 2017 and finally 31% in 2019.

The ICT sector is expected to continue to grow in the coming years (Manpower Group, 2015; Cedefop 2017; Cedefop 2018). Although the percentage of graduates in science,

technology, engineering and mathematics (STEM) is among the highest in the EU (as a total of higher education graduates), the actual number of graduates is low. Employers report that graduates often lack practical skills but possess good, though overly theoretical knowledge (World Bank, 2018b in Education and training monitor, 2019).

3.2. Digital skills of students

First of all, we note the fact that at national level, we have a very small number of studies focused on measuring the digital skills of the young population (Balea, 2016a, 2016b, 2016c; Grădinaru, 2018; Hatos, 2019, 2020; Root, 2018; Rodideal, 2018; Tőkés and Velicu, 2015; Tudor, 2020; Velicu et al., 2019).

Today's students, known as digital natives, are living a paradox (Grosseck, et al., 2019). Although today's students grew up with technologies, there are many studies which underline that students' digital skills are not what they might seem (JISC:2015; Grossek, Malita and Bran:2019). Sullivan (2018) argues that many young people, belonging to the generation of digital natives, have shown limitations in the use of technology, especially in its use for educational purposes. There have been numerous international studies focused on this topic, concluding that there is a huge difference between the false impression of young people and their real knowledge about digital skills (Sommer, 2014; Fung, 2019; Soomro et al., 2020; Lembani et al., 2020; Emily & Rahim, 2020).

 The COVID-19 pandemic has raised awareness of significant gaps and deficiencies in digital skills, media literacy and the use of technology in education. Also, it was possible to identify the need for a strategic approach for the acquisition of digital skills throughout life, for all participants involved in the educational process.

Previous to the Coronavirus pandemic, the use of E-learning in Romanian universities was low. Primary, secondary, high schools and small universities represent 88.8% of the pupils and students involved in the Romanian education system. Only 300.000 students (about 11-12%) enrolled in the Romanian education system in the 2019–2020 academic year were taking courses at one of the top universities — the 17 universities that had more than 10.000 students and had a developed online system for distance education before the pandemic and the lockdown (Edelhauser and Lupu-Dima, 2020). The Romanian National Council for the Financing and Higher Education statistics shows that from the total of the 49 Romanian State Universities, 32 of them have around 500 students (Edelhauser and Lupu-Dima, 2020). Today, the universities are trying to accommodate to the needs of society and to reconsider educational practice. In preparing human resources for insertion into a digitized labor market (or at the beginning of digitization) this element, digital literacy among students, is defining. The lack of digital skills may limit employment opportunities. The use of ICT in university teaching practice in Romania was a necessity to being a part of the European Higher Education Area and specifically to face the pandemic context. Adapting to the new pandemic context has not been easy for anyone, neither for students, nor for teachers.

In response to the challenges posed by the COVID-19 crisis, the European Commission launched on 30 September 2020 the new Digital Education Action Plan, entitled "Resetting education and training for the digital age (2021-2027)". For this purpose, in order to develop a plan applicable to all EU member states, a public consultation process has been carried out, to revising the EU digital education plan. According to this study the main issues at EU level were that:

- about 60% of respondents did not use distance and online learning tools before the crisis;
- 95% of respondents consider that this COVID-19 crisis marks a point from which the previous practices regarding the use of technology in education and training will change;

- respondents state that pedagogical resources and online content must be relevant, interactive and easier to use;
- over 60% of respondents believe that they have improved their digital skills during the crisis, over 50% of them wanting to deepen them.

In relation to the digital skills needed by teachers, (Gurukkal, 2021) brings into question the term "maverick teachers" - friendly, critical, creative, "rebellious" and disruptive. The profile of such a teacher would include features such as: critical and independent thinking, accepting diversity, always open to new changes, able to create a design for the use of digital tools that expands reality and challenges the student to innovation.

3.2. Policies and strategies implemented a national level

3.2.1. Teaching and learning in terms of infrastructure, staff and students

The coronavirus outbreak allowed us to better understand and diagnose the Romanian Higher Education System. Moving from offline education paradigm into online education from one day to the next has required many logistic efforts, and it has brought to light the problems the educational systems already had (Hosszu and Rughiniş 2020). So, on one hand we were confronted with the systemic problems that Romanian universities were facing like poor infrastructure, insufficient training of both teachers and students in using ICT, the reluctance of decisional factors for e-learning activities, lack of experience in on-line communication (Marchiş, 2020), but also allowed for some innovative solutions to be implemented.

According to the Law of National Education (Law 1/2011) universities and other higher education institutions are autonomous and have the right to establish and implement their own policies, within the general provisions of the in-force existing legislation. Despite this large autonomy, the restrictions imposed on in-door group gatherings made it impossible to resume regular, face-to-face, courses (European Union Agency

for Fundamental Rights (FRA) 2020). So, on March 10, 2020 when the Ministry of Education announced the closure of all schools for at least 10 days (with the possibility of extending the period), most universities decided accordingly. But, because the Ministry did not establish clear regulations for continuing education, universities encouraged the teachers to use the existing functional e-learning platforms or other electronic means teachers had at their disposal or which could be made available upon request. In conclusion, Romanian universities have adopted a mixed strategy for implementing virtual education in the context of the existing options, using third-party platform (eg. Microsoft Teams, Google Classroom, Zoom), or platforms already developed internally (Edelhauser and Lupu-Dima 2020). But, at least at the beginning, this forced switch to a fully online environment was focusing more on assuring the course continuity and not necessarily on usage of innovative practices (Maier, Alexa and Crăciunescu 2020). The continuous pressure exerted by the pandemic crisis has put pressure on changing the normative framework; so, a series of measures were adopted at national level (Marchiș, 2020; Deca, Gologan and Santa, 2021; Dobrilă, 2020):

- for the 2019-2020 cohort, *the graduation exam* for all levels (bachelor, master, doctorate) and the habilitation thesis can be carried online for all students, regardless of their type of training (full-time, part-time, distance-learning).
- based on university autonomy, respecting the steps of the process and assuming public responsibility, during the academic year, universities *use the online platforms as an alternative didactic teaching and evaluation method*. As a result, universities had to issue support documents like methodologies, guidelines, resource packages for both teachers and students for moving in the online environment (Sălceanu 2020);
- *the admission* process can also be carried out in remote format.
- for the beginning of the 2020-2021 academic year, three scenarios, were proposed from which universities could choose according to the epidemiologic developments at local level: (1) physical presence for all students to all activities with the compliance of all protective measures; (2) physical presence for students to certain

activities decided by University Senate and (3) suspension of all face-to-face activities. Upon their profile, epidemiological situation, faculties decided to start school in a physical/hybrid/online format, with the possibility to change the scenario during the semester.

3.2.2. Research (access to research infrastructure and continuity of research projects)

The COVID-19 pandemic and associated disruptions have had an impact on academic research, some dimensions as research practices and research topics being influenced a lot, requiring redesign and innovation.

Rapid spread of the SARS-CoV-2 virus also raised great expectations from research to find viable solutions. Shortly after the closure of universities, databases with relevant articles became available to facilitate researchers' access to up-to-date results in the field. The Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI) became the main catalyst in directing funds for fighting COVID-19. Therefore, in April 2020 it launched 2 competitions focusing on a series of research topics considered a priority in the fight against the virus, under the Solution – 2020 program with a total budget of 25 million RON (approx. 5 million EUR). A total of 16 projects were financed (UEFISCDI 2020), but we noticed that most of the universities or humanities institutes that reacted during Covid-19 crisis were technical and medical.

3.2.3. Social dimension of HE

The Covid-19 crisis has highlighted the fact that social inequalities are also reflected in the online environment. The pandemic had a greater impact on students from socially vulnerable groups than for the entire statistical population concerned. With the transition of education in the online environment, it was possible to highlight the acuity

of digital inequalities among students (Torres Aza et al., 2021; Cosma, 2021; Emily & Rahim, 2020; Soomro et al., 2020; Hassan, 2020; Basilaia & Kvavadze, 2020; Bergan et al., 2021; Mseleku, 2020).

We cannot neglect the fact that the students do not represent a homogenous population and they might have unequal access to digital resources. A large part of the students had to face problems generated by the lack of a device or a good internet connection during online classes. The percentage of those who encountered connection problems (or other problems caused by the lack of adequate space to connect to online classes) could not be estimated very accurately.

A low level of family income implies a reduction in the level of digital democratization, access to technology, thus creating a barrier to participating in online education, and resulting in a major source of exclusion, inequality and social isolation (UNESCO, 2020b). The benefits of online education are disproportionate for those from disadvantaged social backgrounds, whose opportunities are less beyond the school context. Referring to the conditions under which students were able to attend online classes a study conducted by (Lup and Mitrea, 2020) shows that out of a total of 3,603 students, 68% had optimal conditions for learning activities, namely that they are alone in a room, without being disturbed by other people, 16% were accompanied by other family members who did not interrupt them, and 10% were frequently interrupted by others (family members or roommates).

The access to educational platforms, especially for vulnerable students, who during the crisis become even more vulnerable, lead to development of support initiatives at central and local level aiming at acquiring computers and telecommunication packages for students in difficulty (Sălceanu 2020). In spite of its problems mentioned by National Alliance of Student Organisations in Romania (ANOSR 2020), the national program *Euro 200* initiated in 2004 by law no. 269/2004 continued. The program aims to support computer acquisitions for pupils and students with reduced financial possibilities (gross

monthly income < 250 RON/approx. 50 EUR)/family member). The financial help is granted once per student and consists in a voucher of 200 EUR that can be used for computer purchasing. But just 32 students were granted this financial support in 2020 (MENCS, MSI, SIVECO n.d.). However, most universities have subsequently increased their financial support through internal grants, for the acquisition of personal computers for students who are also eligible for receiving a social scholarship.

In the framework of the ROSE programme – Grant Schemes for Universities, 49 grants under the competitive grant scheme Support for University Students have been signed and received the first tranche of funds. The university-level interventions under this project aimed at supporting the needs of students at risk of dropping out of public facilities through remedial programs, tutoring, counseling, guidance and support services, coaching services, workshops in specific areas, and awareness raising campaigns.

 The length of the pandemic and its effects on daily life, costs and other financial issues can directly affect the continuous participation of students in higher education. The vulnerability caused by the disturbances in the academic space is worrying. The situation of both undergraduate and postgraduate students has generated unfavorable conditions, such as the necessity to drop out of education. The condition of digital vulnerability includes aspects related to social vulnerability, these two having an interdependent relationship. Students in a condition of digital vulnerability, have limited access to digital technology, use a low variety of tools, digital applications, and have difficulty in using digital technology creatively, in order to achieve some personal goals.

The literature has recognized that those who have a low position in society are prone to exclusion and marginalization in the digital environment (Helsper & Reisdorf, 2017; Van Deurse, et al., 2017). This highlights an essential aspect: those who use ICT but have a disadvantaged social and cultural background, tend to have a limited digital experience, a small number of digital activities and are not very diverse. From different

perspectives and angles, these studies have shown how inequalities in Internet access (first digital divide), digital skills (second digital divide) and the benefits and opportunities based on ICT access and use (third digital divide) are strongly intertwined with social inequalities (Ruiu & Ragnedda, 2020).

3.2.4. Community engagement

This crisis mobilized a part of the young population to pass from social distancing to social cohesion. While physical distancing was seen as an active measure contributing to the prevention of SARS-CoV-2 virus spread in the community, universities rose to the challenge and provided resources and expertise in the fight to save lives and livelihoods, proving that its third mission is more than just a statement (Deca, Gologan and Santa 2021):

- Medical students volunteered in hospitals and helped medical staff in managing COVID-19 patients;
- Through students' associations, students got involved in delivery of food and daily goods to elderly and other vulnerable groups;
- Technical schools become involved in the production of medical equipment;
- Experts in communication addressed the spread of fake news in online debates and in national television programs.

An important role in mobilizing students to participate in civic activities was played by the university itself, as a complex entity, as a community. Thus, starting from the needs identified in the local community, several universities engaged into short-term and focused projects, several examples being mentioned here:

- **Universities from Cluj-Napoca:** The University of Agricultural Sciences and Veterinary Medicine offers the County Emergency Hospital high performance equipment for diagnosing suspected persons. Babeş-Bolyai University has provided access to diagnostic equipment, which can analyze 96 samples at a time.

Several test kits were ordered by the University of Medicine and Pharmacy and several specialists volunteered to work with these kits.

- **The Convention of Student Organizations in Craiova**, in partnership with the Student Association of the Faculty of Social Sciences Craiova decided to implement the project "*Happiness Factory – Together in the struggle with Covid19*". The purpose of the project was to limit the movement outdoors of vulnerable people for shopping, as they can receive the food they need through volunteers.

- **University Ovidius Constanța -** the Senate of Ovidius University in Constanța has published an official statement with institutional measures to fight against the infection with coronavirus: Development and implementation, together with the faculties of profile of a software of statistical evaluation and epidemiological management, program that will be put, free of charge, at the disposal of the competent authorities, close collaboration with the student organizations, in particular with the "Association of Medical Students and Young Physicians of Constanta" within the Faculty of Medicine and "League of Students" and supporting their involvement, on a voluntary basis, in complementary, supportive actions, such as statistical analysis, call center, etc..

- **University of Timișoara –** A call for recruitment of volunteers was published on the official website of the University, in the attention of Medical Students in their 4th, 5th or 6th year to get involved in helping the prevention of aggressive spreading of SARS-CoV-2. Name of a contact teacher, who is responsible for the training, monitoring and organizing of the volunteering activities is provided.

- **Civil Engineering School of University of Bucharest -** The Students' Association of Technical and Civil Engineering in Bucharest started the "*Students deliver*" campaign, based on the model made by Geeks for Democracy. Around 100 students from all over the country have started a campaign to help the most vulnerable – the elderly, parents with children, people who cannot move. The students do their shopping, so that they do not expose themselves to the risk of illness.

3.3. Local response - UBB as a digital university

The term "digital university" refers to a complex system that involves digital infrastructure for digital learning and digital capabilities of the academic staff and digitally savvy consumers (students), as well as coherent policies (Grosseck, Malița, & Bran, 2019). Even before the COVID-19 crisis, universities have taken measures and assumed responsibilities to create such an environment adapted to digital society. This section looks at such existing practices in four areas important for developing a digital university at local level:

- **Learning environment** – the entire technological and educational infrastructure that a university provides. With respect to this area, buildings, classrooms, laboratories, and equipment are all essential elements of the learning environment as a high-quality infrastructure facilitates better instruction, improves student outcomes, and reduces dropout rates. Therefore, UBB continued its efforts to support vulnerable access to online classes by signing a 2-year contract for 7.265.695 RON (279.800 EUR) to buy 2000 laptops with internet connection (Babeș-Bolyai University 2021a).

- **Digital participation** – ease and full access to digital resources and learning repositories facilitated through the learning environment. Envisioning that in 2027 it will be a world class and a digital university, UBB adopted The Digital Transformation Strategy 2020-2027. It is an important policy document stating that in 2027 UBB will become a reliable partner in the business IT sector and the first Romanian university that will completely automate routine activities using AI and RPA technologies so that its community can focus on knowledge, innovation, research and technological transfer. The strategy mentions specific measures in the area of supporting and improving teaching and research, improving the decision process and simplifying the administration, digital integration of hardware and software infrastructure, building a reliable partnership with the business IT sector, and using technology for the transition to a sustainable university (UBB Green). In line with this strategy, UBB already turned to cloud-based solutions to empower

faculty for online education and adopted Microsoft 365 to offer unified, easily accessible, and more secure digital tools for communication, collaboration, and storage. Faculty and students received an email address and using a single-sign-on system, they could easily access all the Microsoft 365 apps, including MsTeams for online classes. Adrian Hudrea, director of the Directorate of Information and Communication Technology says that there are 48,000 active email accounts (Hudrea, 2021). Some educational resources have been digitized from the beginning of the 2020-2021 academic year. The Central University Library, through a personal ID and password, provides full access to the materials included in courses syllabi and for bachelor exam, in digital format. The platform is in continuous development and updated (Kinga, 2020).

- **Digital literacy** – acquiring digital skills and competencies allowing students to be fully engaged in the digital society and economy. The Center for Innovation in Teaching and Learning issued a Guide for online education[3] and a series of webinars for faculty. The new academic year will include an innovation in curriculum development. Upon a consultation process with the socio-economic sector and students, a transversal course (Entrepreneurship) was introduced at all levels. This will be taught in modular format by professionals and experienced faculty and can be accessed by students at any time during their academic plan (bachelor/master/doctoral) (Babeș-Bolyai University 2021d).

- **Curriculum and course design** focusing on continuously (re)designing curricula and courses in accordance with policies and digital strategies to offer new course modules and an updated curriculum. A result of such an individual-led endeavor is presented in box 1. But, at central level, in collaboration with EON Reality, on January 23, 2021, Babeș-Bolyai University established UBB-EON-XR Center, as a structure aiming at: (1) using virtual reality and augmented reality in teaching-learning for UBB community and (2) developing innovative products that can be transferred to the socio-economic community (Babeș-Bolyai University 2021b). As

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[3] Ghidul educaţiei online la Universitatea Babeş-Bolyai din Cluj-Napoca (UBB) Principii şi strategii de optimizare a activităţilor didactice în pandemia COVID- 19 - NEWSUBB

a result, starting with the 2021-2022 academic year, the Center will provide UBB students and faculty the opportunity to improve their educational experience with world-class XR solutions, thus changing the pedagogical paradigm to focus more on procedural knowledge that cannot be taught in textbooks and videos (Babeș-Bolyai University 2021c). Moreover, through the project CNFIS-FDI-2021-0042 a competition for teaching projects using this new technology was launched on August 2021. 10 projects (5 from exact sciences and 5 from humanistic sciences) will be selected and the project applicant will receive an additional working contract and additional financing for training.

Box. 1. Learning effectiveness in online environment[4]

Social Work Methods with Groups (SWMG) is a compulsory course studied by the undergraduate social work students during the fourth semester. The main learning objectives of SWMG workshops for students were to assimilate a set of knowledge, values and skills to work with groups, to practice the main skills necessary in working with groups and to understand the peculiarities of working with different categories of beneficiaries of social work with groups. During 2020-2021, this course was offered exclusively online. Comparing learning effectiveness of online with face-to-face learning approach, a quantitative study was carried on 50 students (enrolled in 2020) and 92 students (enrolled in 2019). Two compulsory deliverables of students required for the assessment – the final self-assessment sheet and the group plan elaborated by students in pairs based on which they offered a one session group in a laboratory-controlled environment – were analyzed using descriptive, inferential statistics and thematic content analysis.

The main requirement of students at SWMG workshop is to prepare and offer a one-session group, working in pairs as co-leaders, to their colleagues as group members with different assigned roles, based on a socio-psychological problem of a community in a practical scenario. In 2019, when the learning medium was exclusively face-to-face, the two group co-leaders could arrange the classroom and provide their colleagues the necessary class materials for their practical activities. In 2020, students had to adapt their group sessions to the online medium, using the facilities of Zoom platform. In 2019, all the students' homework were delivered in print, while in 2020, they were uploaded on the Google Classroom. The teacher generated a folder for each written homework, including the task requirements, the guidelines regarding its elaboration, and the deadline for delivery.

The results indicated a significantly difference in skills acquisition according to the learning medium. The online context of learning favored the training of cognitive and self-awareness

skills, while the traditional face-to-face medium favored the interpersonal and problem-solving skills development. A notable result was that therapeutic and support groups prevailed in the online learning medium. This could be a consequence of the fact that remote education coerced students to return to their place of residence, mostly in disadvantaged rural areas, leading to negative psychological effects caused by social isolation in time of the pandemic. Another remarkable result reflected that students who participated in the learning process exclusively online perceived a significantly higher overall usefulness of SWMG laboratories for professional training as compared with their peers who studied in the traditional face-to-face format. A general conclusion of this study is that exclusively online learning is not the most beneficial educational strategy. As a full return at the traditional face-to-face context is hardly predictable, new forms of learning must be conceived through means of blended teaching-learning means.

3.4. Gaps, challenges and shortcomings at institutional level as a crisis response to remote learning

The efficiency of the educational process and ultimately its finality is determined by all the actors involved in this process. In relation with remote learning experience, Coman, et al. (2020: 9) conclude that Romanian universities did not have the technical capacity to provide optimal conditions for online learning, 69.4% of the respondents (N=762) complaining that they frequently and very frequently encountered technical problems with the platforms provided by the universities (e.g. connecting to the platform, signal loss, delayed viewing of messages, the sound was not clear). For an efficient online teaching process we need balancing theoretical and practical tasks, and a careful allocation of time. Thus, Coman, et al. (2020) indicate that 71.4% of students (N=762) mentioned that the courses contained either too much theory or too many practical tasks, and 74.6% said they no longer have the same free time they had when teaching took place in the traditional way.

Moreover, Buzatu, et al. (2020: 9), conclude that students consider that the quality of online education, in relation to that carried out face-to-face, is the same while Lup, & Mitrea (2020: 14) conclude that 59% of students rated online courses as worse or much worse than face-to-face format.

The integration and efficient use of ICT in education should lead to transformations that can be registered at all levels of society. According to Rotaru (2010: 109) "each ICT integration strategy must be discussed in terms of why a software product is included in the teaching activity, taking into account the context in which it is implemented". Therefore, we need to develop strategies for increasing the level of digital literacy that focus on all the 3 levels related of digitization of education:

- Management and administration: automation and anonymization (records, electronic catalog, reports, checklists, registration of attendances / absences, communication, evidence of progress, anonymization of data);
- Pedagogy: teaching-learning processes and evaluation activities (both formative and summative); counseling and guidance activities, psychological and socio-emotional support; extracurricular activities (clubs, non-formal activities); remediation and recovery; activities to promote excellence and high performance;
- Communication (within the school among faculty-students-family) and collaboration and sustainable partnerships (with local administration, NGO sector, business sector).

4. Summary and implications

In conclusion, higher education institutions in Romania were not fully prepared for engaging into an exclusively online pedagogy (Coman, et al., 2020). It is important to keep in mind that we are yet to see the exact consequences of the closures of educational institutions and to understand what effects various local and national policies have on educational outcomes, but also on the national economy and public health. Indeed, without reliable data, it is hard have definitive conclusions; yet there seems to be a consensus on the most important challenges associated with online learning:

- **Equity and accessibility:** focus on the most vulnerable and marginalized student population groups in terms of access to technology and digital preparedness to use the available technology.

- **Quality and relevance of education**: focus on improving the content of curricula and providing specialized support for teachers (develop continuous training sessions for teachers).

- **Educational technical infrastructure:** preparedness of the higher education system to respond in time to crises situation. Technical issues are still the issues most difficult to solve, due to low investments in infrastructure by some schools/programs (e.g. the capacity of the servers owned by universities, poor internet connection, signal loss, lack of adequate digital devices, digital blackboards).

- **Interdisciplinary and intersectoral approaches:** just a single discipline will not be able to fully equip students with the knowledge and competencies necessary for the successful completion of their degree and later for their engagement in the field, neither will one person, so collaboration is needed. We advocate, now more than ever, for the development of multidisciplinary teams that bring together and bridge different areas of knowledge on teaching, information gathering, data collection, evaluation, and reporting. With these combined assets, we can work together on interdisciplinary topics to critically and comprehensively implement online research classes in social sciences that are beneficial for students.

- **Partnerships**: cooperation and collaboration between private and public sector adds new valuable new perspectives on how to achieve an integrated educational system "in the new normal", focusing both on students and faculty. Developing in such partnerships open online platforms that hosts learning opportunities for students would facilitate both digital and social inclusion of students.

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