QUO VADIS EDUCATION? COMPARATIVE STUDY UPON THE RECEPTION OF ONLINE EDUCATION DURING COVID-19 PANDEMIC AMONG ROMANIAN AND HUNGARIAN UNIVERSITY STUDENTS

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Abstract: *March 2020 brought a considerable change into the lives of millions of people: working, learning and many other elements of every day routine moved to the online space. Although, since the launching of the multitude of MOOCs (massive open online courses) offered by entities like Khan Academy, edX, Coursera and others, the idea of home office and even of online education has not been completely new, there still is a basic difference between the alternative, facultative aspect of these facilities and the regular character forced by the Covid-19 pandemic. Home schooling, remote education have become the new normality including both advantages and drawbacks.*

While there is a general consent upon the ineffectiveness of home schooling – at least regarding Romania –, is this valid for tertiary education, too, or could online education offer some perspectives for future academic instruction? Having this in mind, we conducted a research at the Faculty of Economic Sciences of the University of Oradea, Romania, covering the period of online education from March 2020 to June 2021, trying to find an answer to questions like: could the advantages (flexibility in time and space management, broader accessibility cancelling space limits, partial reduction of requirements at least regarding attendance) be materialised in a higher level of attending activities and a lower rate of school abandonment; is online education efficient and to the liking of generation Z; could they, as digital natives, imagine to move online for their studies?

Starting from certain hypotheses covering the aforementioned aspects we applied two research methods: a quantitative one (statistical inventory based on the data offered by the education platform of the institution, distance.iduoradea.ro, used in the time span March-September 2020, and e.uoradea.ro used as from October 2020, survey among the students) and a qualitative one (interview with the students). For a larger view upon things regarding students' attitude towards and reception of online education and its future perspectives, we conducted an extended research including two more Romanian academic institutions (Babeș-Bólyai University, Cluj and the Academy for Economic Studies, Bucharest) – however with very modest results – and two Hungarian ones (University of Debrecen,

University of Nyíregyháza) respectively. This comparative approach – failing to include also a Slovenian institution (University of Maribor), as initially intended – could lead to interesting results covering a broader range.

Keywords: *education during Covid-19 pandemic; online education; rate of school abandonment; students' attitude related to remote education; effectiveness; future of education*

JEL Classification: *Y80; Z0*

1. Introduction

2020 and 2021 were the years of healthcare and IT technology induced by the Covid-19 pandemic, as March 2020 brought a considerable change into the lives of millions of people, when work, learning and many other elements of every day routine moved to the online space. Certain economic sectors (delivery and IT services, trade with IT components due to home office) have experienced a spectacular boom, others (tourism and related domains, production etc.) got frozen and struggled for survival. Social sectors like healthcare, psychological counselling have faced an overwhelming demand, while education has come to a crucial point, being forced to redefine and remodel itself. Since the launching of distance learning in the tertiary domain and the multitude of MOOCs (massive open online courses) offered by entities like Khan Academy, edX, Coursera and others – considered by Maureen W. McClure as a means for total flexibilisation and cost optimisation, thus a considerable element of higher education reform (McClure, in Zgaga et. al. (eds.), 2019) –, the idea of online education is not completely new. Nevertheless there is a basic difference between the alternative, facultative and complementary aspect of these facilities and the regular character forced by the pandemic. Home schooling, remote education have become the new normality including both advantages and a lot of drawbacks. While there is a general consent upon the ineffectiveness of home schooling – at least regarding Romania –, is this valid for tertiary education, too, or could online education offer some perspectives for future academic instruction?
At the Faculty of Economic Sciences, University of Oradea, Romania a specific variant of online education called distance learning has existed since the end of the 1990s. This embraced the form of blended learning. Fulltime online education as a result of Covid-19 disease had been introduced from the middle of March 2020 and activities were run in this form until March 2022. In the second term of the academic year 2019-2020 education was done through the Moodle platform

distance.iduoradea.ro, used only by a few entities of the university, lacking audio and video function, so only on the basis of uploading materials, lectures, activities and facilitating interaction on chat boards in written form. Starting with the academic year 2020-2021 the whole online activity of the University of Oradea was moved to a more productive version of Moodle – e.uoradea.ro – offering more facilities and accepting a very broad range of file formats for being uploaded. Functioning of the platform was acceptable throughout the academic year, however being slower, when overcrowded. For the audio and video components of lectures we were asked to come up with different video applications, like Zoom, Skype, Microsoft Teams, Google Meet etc. As from the academic year 2021-2022 Microsoft Teams application has been incorporated to the above mentioned platform resulting in some minor changes like a new look of the interface and several more profound ones.

Our classes of Business German and Commercial Correspondence in German were held via Zoom, meetings being scheduled according to the faculty timetable for these disciplines. According to our opinion in spite of the tutorials on the platform – both for teachers and students – and the two webinars for teachers to using this platform, – a not very efficient one as being held before the beginning of the academic year 2020-2021, when access to it hadn't already been granted and the other one containing three units, held in January-February 2021 – faculty members, as well as students still encountered certain technical problems. In our case these were manifested in setting an online test to the declension of the noun in German, as the platform wouldn't recognise and accept special German characters with multiple choice type questions, further on it would limit the import function for questions in question banks creating problems with embedded answers (cloze) type of questions, compelling us to ask the platform's administrator and technically more skilled colleagues for help, or to manually create a question bank on each course page needed, as well as to set and fix problematic clozes and follow up the solutions being accepted as the correct answers. The result was a semi-automated correcting process. Other challenges were content and methodology-based, consisting in remodelling or replacing exercises not suitable for the online medium or finding other sources/materials for drilling listening comprehension to the topics dealt with, if the previously used ones were not digitalised. Last but not least the frustration of mainly speaking during the classes to black squares with names/initials, or in best case photos taken in different settings.

Having all this in mind a research was conducted at the aforementioned institution, covering the period of online education from March 2020 to June 2021, trying to find an answer to questions like: could the advantages (flexibility in time and space management, broader accessibility cancelling space limits, partial reduction of

requirements at least regarding attendance) be materialised in a higher level of attending activities and a lower rate of school dropout; is online education efficient and to the liking of generation Z; could they, as digital natives, imagine to move online for their studies? The hypotheses, we have started from, included a better attendance rate of online classes due to flexibility in time and space, lower rate of school abandonment, students' liking online education and considering it as an adequate form for continuing their studies.

1.1. Overview Upon Online Education. Literature Review

Questions like raised in the introduction to this study and similar issues have been dealt with by other researchers, as well, even long before the lockdown caused by the pandemic.

In the centre of Daphne Koller's 2012 TEDGlobal talk is highlighting the benefits of online education, such as a very good global collaboration among students, building study groups along language or cultural lines, geographical position, the possibility of collecting data useful in finding out efficient/inefficient learning strategies, a more personalised curriculum, learning format and pace. "You can break up the material, for example, into these short modular units of eight to twelve minutes, (...). Students can traverse this material in different ways, depending on their background, their skills or their interests. So, for example, some students might benefit from a little bit of preparatory material that other students might already have." (Koller, 2012)

Florence Martin and Doris U. Bolliger analysed learner-to-learner, learner-to-instructor and learner-to-content engagement strategies used by instructors and students and considered by the latter ones to be most efficient in online learning. Their survey findings are crucial in designing online courses with impact. The threefold engagement or in other words interaction is a key factor against failure, school abandonment and depression on learners' side. Among the most appreciated strategies one can list video lectures, different formats used for presenting content, online discussions, chat groups, posting a set of clear instructions, expectations, grading rubrics for all tasks, real-world assignments with practical applicability, group work, peer-review of tasks realised by students themselves, timely and detailed feedback through the instructor etc., but the concluding idea of the study should be retained, too: "The most important element in online learning is the instructor" (Bolliger & Martindale, 2004, in Martin & Bolliger, 2018: 219) being responsive and supportive.

The factors ensuring success for online learning stay also in the centre of another research, this time a comparative one conducted in 2009, resulting that these elements are more of an intrinsic nature, like self motivation, good time management,

independence in working, joy of learning, self-confidence in achieving goals, ability of expressing oneself, rather than determined by the outer world. The group of researchers – Beaudoin, Kurtz and Eden – was mainly interested in the competencies needed throughout e-learning for satisfactory learning outcomes. As the survey was applied to Western, Israeli, Mexican and Japanese online learners – more than 300 respondents in total – it might imply even cultural conditioning. Surprisingly the survey results indicate peer interactions and familiarity with technology as less important elements in succeeding in online educational environment.

Alicia Cundell and Emily Sheepy are also student-oriented in conducting their study upon "Student Perceptions of the Most Effective and Engaging Online Learning Activities in a Blended Graduate Seminar". Data were obtained also through a questionnaire regarding online activities like readings, videos, discussion forums and other assignments based on the use of web technology. Students had to evaluate activities with a special focus on adequacy to the learning outcomes of the course, deep learning, engagement and value, giving thus insight into the nature of engaging online learning activities. To enhance interactivity of the course and especially learner-to-learner interaction, activities included peer-review of tasks, debate, content creation as a group work, reflection. With regard to our study, it might be of interest that more than half of the respondents (55.9%) – 59 in number – would be happy with an equal blend of face-to-face and online activities, 32.2% would prefer face-to-face activities, while entirely online or face-to-face classes were rated with 3.4% each the least.

Michelle Gonzalez and Noreen Moore (2020) analysed in their mixed-method study – survey and semi-structured interview – not only students' opinion regarding engaging online courses, but were interested in institutional perceptions, too, as there can be considerable mismatches between the perceptions of the two entities involved. Like in face-to-face educational situations students' motivation in their own learning process and outcomes is a key element of educational success. The authors consider the three basic and interdependent elements of online and blended learning to be social, cognitive and teaching presence. What Bolliger and Martin called – catching up M.G. Moore's types of interaction (1989) – student-student and student-instructor interaction, in present study is categorised as social presence. Cognitive presence is necessary for finding out, constructing and understanding the meaning of the course content, promoting critical thinking, while teaching presence is the element facilitating both of them (social and cognitive presence).

Quite surprisingly the 82 students involved in the study perceived low-tech course elements much more engaging than Web 2.0 tools being in concordance with the opinion of the 13 faculty representatives. Furthermore the interviews revealed that

for students personal contact to and the availability of the instructor also outside the classes, structured learning contexts, direct instructions, as well as interacting with colleagues through collaborative groups and discussions had an enhancing effect related to learning engagement and outcomes.

Orienting our view to recent past and present we can refer to a set of articles dealing with online education during Covid-19 pandemic.

Hamann et al. (2020) focus in their research work upon online teaching and the efficiency and success of e-learning in a specific field, namely political science courses. However data treated refer to a pre-Covid period, thus not being able to offer info and conclusions fully pertinent to nowadays' situation, the findings, according to which taking only a few online courses doesn't considerably affect students' learning success, while increasing the number of them or moving education entirely online, imperils academic results and graduation, should be taken into consideration and counterbalanced in times, when the pandemic pushes education completely to the online space.

Perceptions upon online education among faculty members in the Philippines is the topic of another 2020 study signed by Rome B. Moralista and Ryan Michael F. Oducado. While faculty representatives participating in the survey were undecided with respect to their liking/unliking online education, they had a quite strong sense of depersonalisation, favouring academic dishonesty, less work done by students, lacking interaction and being challenged by technology during online education.

Another research work – of qualitative type – referring to Romania deals also with students' perspective upon online education, at this time with a special focus on communication in the online space. However not very extensive and also lacking graphical representations, it is still useful for getting insight. Analysing the situation in the second term of the academic year 2019-2020 at the Faculty of Psychology and Education Sciences of the "Alexandru Ioan Cuza" University, Iași, Romania, Angelica Hoblijă highlights advantages, such as being "more student-centered, less intimidating, and encourage(ing) greater participation than classroom interactions" (Markova et al., 2017, apud Hoblijă, 2020: 28) and disadvantages, like "lack of effective interaction and sense of isolation" (idem), elements also perceived by students, and offers suggestions for improving future online communication on teachers' side. As among the drawbacks evoked by students figure also poor internet connection, higher workload than in face-to-face education, too many platforms for activities involved, health issues because of too much time spent in front of IT devices, practical aspects not getting enough emphasis, intensified by the impossibility of doing teaching practice at classroom, solutions for improvement and counterbalancing should deal with these aspects, as well. Fixing the technical

background on institutional side, the use of a single platform for all courses/activities, training both students and teachers for the use of technology, activities run with smaller groups of students and laying more emphasis on explanations, wider availability of teachers for interactions and transferring good practices identified with other institutions worldwide would represent some solutions for the shortcomings.

Although rather a concise report than a scientific paper, Litao Sun, Yongming Tang and Wei Zuo's study (2020) offers good insight into the situation of online education in China during the first months of Covid-19 outbreak. Covering a huge survey group – almost 40,000 students at Southeast University – validity and applicability of the findings are assured. According to data almost 100% of the students asked consider teaching objectives having been fulfilled (50% perceive them fully, while 45% basically attained). Among their suggestions for improvement one can find universally valid recommendations, like combining recorded lecture videos and live courses with more interaction, a teaching platform having playback function etc. The authors point also to issues like difficulties encountered in research and experimenting for graduate papers, the necessity of changing previously set topics, project goals and the flexibility of institutions/tutors in handling these issues.

Analysing synchronous, asynchronous and hybrid eLearning Mladenova et al. were interested in aspects like motivation and attendance, skills acquired, exam results, workload, work discipline, professional communication and relationships. In their survey conducted in 2020 (winter and summer term of the academic year 2019-2020) at University of Ruse, Bulgaria they had come to results regarding the interrelation between online education and attendance rates and digital generation's attitude to remote examination, very similar to those emerging from present work.

Last but not least we shall consider a newspaper article signed by a nine grade student, Rishabh Gupta, resonating with our research, as it presents students' opinion on and feelings towards online education based on the results of a survey conducted with participation of 85 persons. The results are quite surprising, in spite of all the advantages offered by remote education and the popularity of web-based technologies among young people, "almost 80 percent of the students preferred classroom education to online lessons" (Rishabh Gupta, 2020).

2. Methodology

To check the validity of the hypotheses formulated in the introductory part, both quantitative (statistical inventory and survey among students) and qualitative

methods (short semi-structured interview with students from different specialties and study years) were applied. Evidently applying part of these instruments had to be limited to the institution of the author's affiliation.

2.1. Platform Accessing and School Abandonment Rate Analysis

By means of descriptive statistics we made an inventory of the accessing rate of the online educational platform used by our faculty in the second term of the academic year 2019-2020 and both semesters of the academic year 2020-2021. The main entities analysed were first year students, as they generally show the highest rates of attendance with respect to academic activities. The reference point for our check was two-three weeks before ending the lecturing period in all the three terms considered, so it was May 14, 2020 for summer term 2019-2020, December 23, 2020 for fall term 2020-2021 and once again May 14, 2021 for the summer term of the latter academic year. The inventory was conducted according to the foreign language lecture series the students belong to and access rates were also referring to foreign languages (English, French, German). The three different course pages – one for each language – listed all the students included in the respective series and it was on their behalf to access the course page matching their language choice. One of the series included students from following specialties: Management, Marketing, Finance, Accounting and Tourism (157 persons in 2019-2020), another series was allotted to the specialty International Business with Romanian as the language of instruction (28 students) and the third series belonged to International Business and Business Administration both having all the disciplines taught in English (38 students).

Until May 14, 2020 out of the 157 participants of the first series the course page was accessed by 52 (about 33%), from the 28 students of the second series by 14 (50%) and from the 38 participants of the third series by 15 persons (39%) at least one time. In the following academic year there were 190 students in the first series with 87 persons (approximately 46%) accessing until December 23 at least one time the platform. The numbers for the second series were also 28 students with 18 accessing ones (about 64%), while from the 41 participants of the third series with 28 accessing ones (about 68%). It should be mentioned, that the total number of participants enrolled to the first year course pages in foreign languages might have included some second year students with retake exams in these disciplines, as well. In the summer term 2020-2021 we analysed the same cohort of first year students having 192 students in the first, 30 in the second and 43 in the third series. The differences in numbers related to the first term are given by second or third year students with retakes in foreign languages. In the first series 55 students (about 29%) accessed until

May 14, 2021 at least once the course page in languages, in the second series this number was 12 (40%), while in the third series 15 (about 35%). While there is no means to compare numbers and rates in the first term of online education with those from the second and third term of this form of activity, as we refer to different groups/series of students, the parallel can be drawn for the two terms of the academic year 2020-2021, where one can observe a considerable decrease in access rates from fall to summer term of this year. It should be also mentioned, that accessing the platform doesn't necessarily mean attending classes held on Zoom, Skype or other applications, it shows only a minimal interest for activities in that respective course. For a better overview consult the graphic representation below (chart 1).

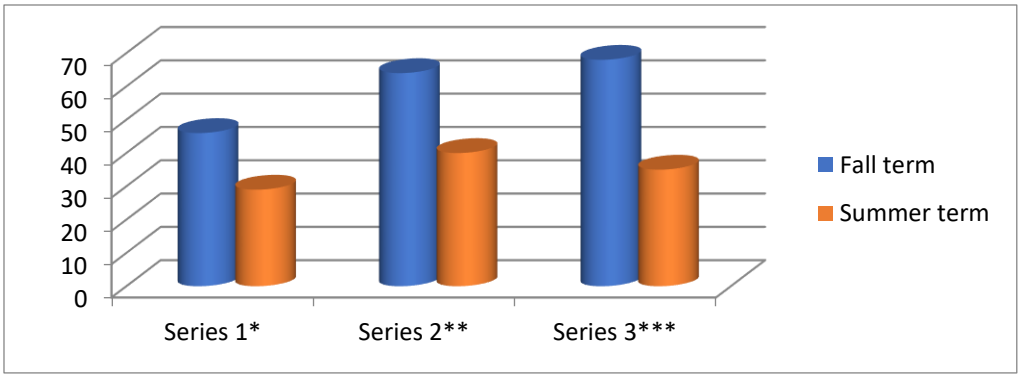

Chart 1: Access rates in percentage fall and summer term, academic year 2020-2021
* students of the specialties Management, Marketing, Finance, Accounting, Tourism
** students studying International Business in Romanian language
*** students studying International Business and Business Administration in English language
Source: own creation

To find out relevant data for our first hypothesis we have to restrict our range of analysis only to students studying German, as we dispose of data for an at least partial comparison to the period of face-to-face education only referring to this group of students.

Regarding the first series (students of the specialisations Management, Marketing, Finance, Accounting, Tourism) in the summer term 2020 out of the 31 students studying German 22, i.e. around 70% accessed the course page at least once until the date of reference, from the second series out of 14 persons 10 (71%) and from the third series out of 18 students 11, that means 61%.

In the first term of the next academic year from the 35 students of the first series studying German 31 persons (about 89%) visited at least once the course page until December 23, from the 14 students of the second series this number was 11 (around 79%), while from the 13 participants of the third series 12, so about 93%. In the second term of the same academic year a slight decrease in the accessing rates can

be observed with the first two series. From the 35 participants of the first series 28 (80%) logged in at least once until May 14, 2021 and from the 15 participants of the second series – once again the differences in numbers result from students with retakes – only 9 students, i.e. 60%, and the numbers and rates are the same for the third series (9 people out of 15), too, with a considerable fall of 33% in the accessing rate related to the first term. We synthetised these data in chart number 2.

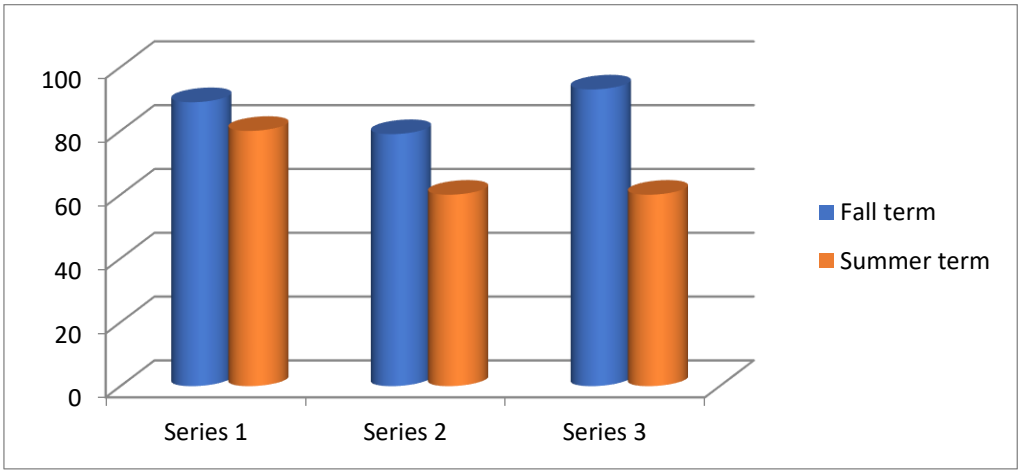

Chart 2: Access rates in percentage fall and summer term, academic year 2020-2021, students studying German
Source: own creation

The two charts show a visible decline in the access rates from one term of the academic year to the other one, the question is, how do these rates relate to the previous attendance rates in the pre-Covid period? To find it out, we decided to compare the attendance data of the academic year 2018-2019 with fully face-to-face education, of 2019-2020 with half face-to-face and half online education and of the completely online run 2020-2021. For a better evidence we put data into tables representing the aforementioned academic years (tables 1-3).

Table 1: Class attendance rates in percentage, academic year 2018-2019, Ist year students (fully face-to-face education)

Specialisation	**Fall term**	**Summer term**
International Business/Business Administration (English)*	~ 81% (out of 21 students 17 having at least one presence)	~ 52% (21 / 11)

* no data available for the other specialties, as in this academic year they were taught by another teacher
Source: own creation

Just as a follow up, in the first term of the next academic year, also in face-to-face education, they presented an attendance rate of 78%. Unfortunately we don't dispose of data regarding the IInd term of this year, as access to the platform distance.iduoradea.ro, where education was run in the first period of the pandemic, is not granted any more.

Table 2: Class attendance rates in percentage, academic year 2019-2020 (half face-to-face and online education) and 2020-2021 (fully online education) as follow up

Specialisation	**Ist year of study (2019-2020)**		**IInd year of study for following up (2020-2021)**	
	Fall term	Summer term	Fall term	Summer term
MN, MK, F, Acc., T**	~ 81% (31 / 25)	~ 70% (31 / 22)	~ 85% (26 / 22)	- ***
International Business (Romanian)	92% (14 / 13)	71% (14 / 10)	~ 77% (13 / 10)	~ 67% (12 / 8)
International Business/Business Administration (English)	~ 94% (18 / 17)	61% (18 / 11)	~ 69% (16 / 11)	~ 59% (17 / 10)

** Management, Marketing, Finance, Accounting, Tourism
*** not studying languages any more
Source: own creation

Table 3: Class attendance rates in percentage, academic year 2020-2021, Ist year students (fully online education)

Specialisation	**Fall term**	**Summer term**
MN, MK, F, Acc., T	~ 89% (35 / 31)	80% (35 / 28)
International Business (Romanian)	~ 79% (14 / 11)	60% (15 / 9)
International Business/Business Administration (English)	93% (13 / 12)	60% (15 / 9)

Source: own creation

Following preliminary conclusions can be drawn: the attendance rates of the second terms show in most cases a considerable fall related to those in the first terms; there is an evident decrease in the second term of the academic year 2019-2020, the moment when education moved online, as related to the first term, however with a revival in the first part of the next academic year presenting generally comparable

attendance data with those of face-to face education. Looking at these data and calculating the median for them, – an average attendance rate of about 80% in face-to-face classes, while around 73% for online education – the final conclusion is: there is no evidence for online education increasing class attendance on behalf of its flexibility. It should be also mentioned, that neither in case of face-to-face nor in that of online education do these rates refer to the intensity of the activity, they just show a minimal interest for the discipline and education at all.

To check the validity of the hypothesis regarding school abandonment the same three academic years (2018-2019, 2019-2020 and 2020-2021) were compared covering an equal period of face-to-face and online education (three semesters each). According to our expectations, faculties and study programmes face generally the highest rate of dropout during and at the end of the first year of study showing a decreasing tendency in the following years. At our faculty, this was valid both for face-to-face and online education. Furthermore, although registering slight fluctuations, online education indeed contributed to diminishing the rate of school abandonment with almost 40% as an average for all years of study, probably also due to lowering the level of requirements and the facilities offered by the online space, but surprisingly led to a 50% increase of non-graduation from the academic institution. Concrete details can be consulted in the following table.

Table 4: Rate of school abandonment and expulsion at the Faculty of Economic Sciences, University of Oradea in the period analysed

<table>
<tr><th colspan="3">Ist year</th><th colspan="3">IInd year</th><th colspan="3">IIIrd year</th></tr>
<tr><td>2018-2019</td><td>2019-2020</td><td>2020-2021</td><td>2018-2019</td><td>2019-2020</td><td>2020-2021</td><td>2018-2019</td><td>2019-2020</td><td>2020-2021</td></tr>
<tr><td>~22%</td><td>~ 12%</td><td>~ 15%</td><td>~ 9%</td><td>~ 4%</td><td>~ 7%</td><td>~ 5%</td><td>~ 4%</td><td>~ 3%</td></tr>
<tr><td colspan="3">Decrease of almost 40% in average during online education as compared to the face-to-face form</td><td colspan="3">Decrease of almost 40% in average during online education as compared to the face-to-face form</td><td colspan="3">Decrease of almost 30% in average during online education as compared to the face-to-face form</td></tr>
<tr><td colspan="3" rowspan="3">-</td><td colspan="3" rowspan="3">-</td><td colspan="3">Rate of non-graduation</td></tr>
<tr><td>10%</td><td>17%</td><td>13%</td></tr>
<tr><td colspan="3">! an increase of almost 50% in average during online education</td></tr>
</table>

Source: own creation based on data delivered by the faculty secretariat

2.2. Questionnaire Related to the Online Education

Response to our last two suppositions with respect to students' preference for online education and the perspectives of this educational format is to be found in the online questionnaire completed by a total of 138 persons. Initially the survey was thought to be conducted only among the students of the Faculty of Economic Sciences, University of Oradea, but later on we decided to extend it to a wider range, including other Romanian higher education institutions and both Hungarian and Slovenian students. Unfortunately in lack of responses on Slovenian side, – in spite of the repeated efforts of the teacher colleague from the Faculty of Economics and Business, University of Maribor – the international comparison was limited to Hungarian students only. The institutions participating in the survey are on Romanian side the Faculty of Economic Sciences, University of Oradea, the Faculty of Letters, Babeș-Bólyai University, Cluj and the Academy for Economic Studies, Bucharest and on Hungarian side the University of Nyíregyháza, – with a quite wide range of specialties – and the Faculty of Economics and Business, University of Debrecen. The main difficulty encountered throughout the survey was the reluctance and delay in response on Romanian side leading to its limitation, as well, namely the restricted number of questionnaires applied, 44 (33 responses from the institution of the author's affiliation, 2 from Bucharest and 9 from Cluj) as related to the 94 responses got from Hungarian participants (62 from the institution in Debrecen and 32 from Nyíregyháza). It should be mentioned, that one of the participants in Romania is a foreign citizen, studying at our faculty and running a business in Oradea with the perspective of applying for Romanian citizenship. That's why we decided to integrate this student into the Romanian group of surveyees. The double number of questionnaires completed by Hungarian students and their promptitude in answering enable some favourable conclusions related to their seriousness and sense of obligation as an average in comparison to the features of their Romanian mates.

Slightly different variants – in Romanian, Hungarian, German for Cluj and English for Oradea and Maribor – of the same questionnaire were applied throughout the academic year 2020-2021. The differences in length – five versus seven questions – and formulation result from the variety of the survey group and the period of application also through the prism of the different regulations imposed temporally and geographically by the pandemic. Students outside the institution of the author's affiliation had to complete variants with slight modifications of the following questionnaire:

1. How did you perceive online education in the previous semester?
   a) as an opportunity for greater freedom in time management dedicated to learning
   b) as a technological and infrastructure challenge
   c) as idea ok, but as it was realised, as unsatisfactory
   d) otherwise, extend upon it:

2. Did you follow the activities in the disciplines learned regularly?
   a) yes - why?
   b) no - why?
   c) in some disciplines, yes, with others, no - why?

3. Do you consider having worked harder with online classes than you did in face-to-face education?
   a) yes
   b) no
   c) only in some periods (eg. before the exam session etc.)

Comments/observations, if you have any:

4. Which form of evaluation did you feel more confortable with?
   a) face-to-face written/oral evaluation - why?
   b) online written/oral evaluation - why?

5. Would you like continuing education in online form in the next terms, too?
   a) yes - why?
   b) no - why?
   c) other answer

Students of the University of Oradea had to consider two additional questions related to the rate of following the activities in the disciplines taught by the author and to their satisfaction upon respective classes. Furthermore the question related to the form of evaluation made also reference to these disciplines, however students' responses might suggest applicability to other disciplines, too.

In the first round Hungarian samples were analysed separately, while Romanian ones together, as they were few in number. Thus, the following results were obtained. 60% (37 persons from the University of Debrecen) and almost the same rate, 59% (19 of University of Nyíregyháza students) perceived online education as giving more freedom in managing one's time. For 16% (10 students) from Debrecen and

19% (6) from Nyíregyháza it presented a technological and infrastructure challenge, while 8% (5 persons studying in Debrecen) and 9% (3 persons studying in Nyíregyháza) were not satisfied with the way, online education was realised. Another 10 students (16%) from Debrecen and 4 (13%) from Nyíregyháza indicated the lack of social relations, technical problems like power cut, health issues because of sitting too much in front of the computer, the necessity of decreasing the workload and requirements as issues to be dealt with.

For 74% (46 persons) of the students from Debrecen and about 84% (27 persons) of those from Nyíregyháza intrinsic motivation was the reason to attend activities regularly; while 23% (14 Debrecen students) and 16% (5 Nyíregyháza students) made their choices according to the discipline and a mere 3% (2 persons in Debrecen) lacked enough enhancement to follow the activities on a regular basis.

Online education meant harder work for 37% (23 people) of the students of the first institution, this was only 22% (7 people) with the second one, 42% (26 persons) of the responding students in Debrecen and 40% (13 persons) in Nyíregyháza respectively had a contrary feeling related to the quantity of tasks, while 21% (13 persons) in Debrecen and around 35% (11 students) in Nyíregyháza experienced periodically a bigger workload because of the increased number of projects and papers to be submitted.

Because of technical problems and more rigorous time limits faced in the online exam, 13% (8 students) in Debrecen and a considerable 35% (11 persons) in Nyíregyháza would prefer face-to-face examinations, 4% (3 students) in Debrecen were undecided and accordingly an overwhelming 83% (51 in number) of Debrecen students and 65% (21 in number) of the participants in Nyíregyháza voted for online exams. The arguments mentioned ranged from higher security, lower rate of stress, over more facile tasks to no necessity for travelling. Related to the perspectives of education only 26% (16 people) of the participants in Debrecen and about 31% (10 students) of those in Nyíregyháza voted for continuing studies online, 53% (33 students) of the first group and 50% (16 students) of the second one expressed preference for face-to-face education, while 21% (13 people) in Debrecen and a further 19% (6 persons) in Nyíregyháza could imagine hybrid education with practical types of activities run definitely in face-to-face form. Maybe relevant for the views of the supporters of face-to-face instruction is following excerpt from the argument of a student in Debrecen: “I would consider it outrageous (to continue online – author’s note). I enrolled at university to get quality knowledge, necessary for the degree and to start my independent life. In my view, in this form none of them is realisable (…).”

Analysing the responses given by Romanian students – with some items leading to overlapping choices – one can state, that 48% felt more freedom in time management due to online education, for 27% it meant technological challenge, 23% were unsatisfied with its realisation and 2% had other feelings related to it.

The arguments for participating regularly in the activities were for 68% mainly of intrinsic character, 5%, not participating on a regular basis, blamed health issues and lack of time, while 27% decided to participate or not depending on the discipline/activity. "Some disciplines were of no interest for me and it was a great relief not being compelled to participate, (...)" argued a student of the Babeș-Bólyai University, Cluj. For 41% of the Romanian participants online education was equal to harder work because of the increased workload, or as another student from Cluj formulated: "In face-to-face education the mere presence used to be quite enough and generally one didn't need to collaborate or say something, just sit there (...). While with the online education each of us had to do the homeworks/assignments, that wasn't the case at all, or just rarely, before." 39% of the participants considered not having worked more, while about 20% dedicated more time and effort for learning in some periods of the term.

An overwhelming 80% of the responding students voted out of various reasons for online exams, although there were even respondents (18%) aware of face-to-face exams implying more correctitude in grading and compelling students to a greater involvement. The remaining 2% resulted from one person skipping to answer to this item. Here should stay a noteworthy remark made by a master student from Bucharest in favour of online examination which "(…) forced many teachers to make the transition to open-book or similar type of exams, where the grade of difficulty of the exams set on memorising (…) was drastically decreased and accent was laid on competencies acquired, on understanding issues etc. (…)."

Unlike their Hungarian mates, 45% of the Romanian students participating in the survey were/would be happy with continuing education online due to a better time management, the possibility of taking a job in parallel, or because of considering it more exciting and efficient. On the contrary about 41%, also due to social interaction and perceiving it as being more efficient, would prefer face-to-face education, while the remaining 14% were undecided. For a better comparability between the two national groups, we finally summarised the Hungarian results and put them for a graphic representation in comparison to Romanian data in following charts (charts 3-12).

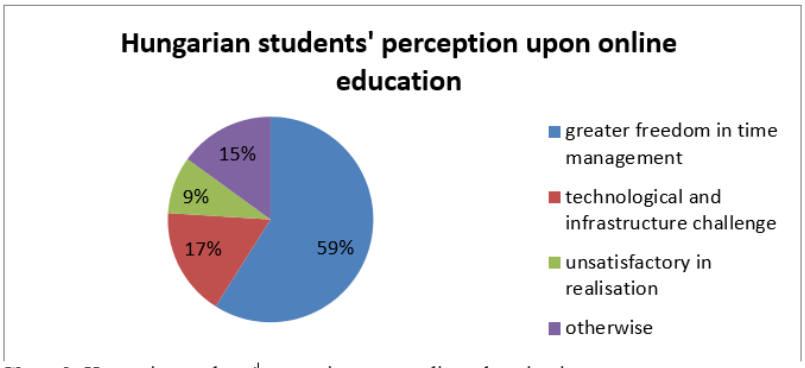

Chart 3: Hungarian students' perception upon online education in percentage
Source: own creation

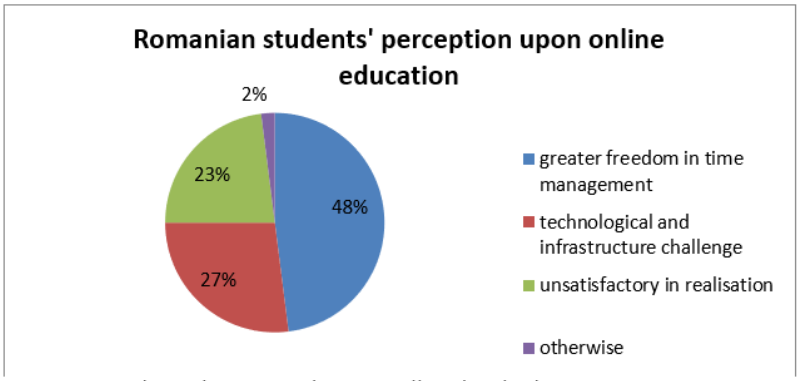

Chart 4: Romanian students' perception upon online education in percentage
Source: own creation

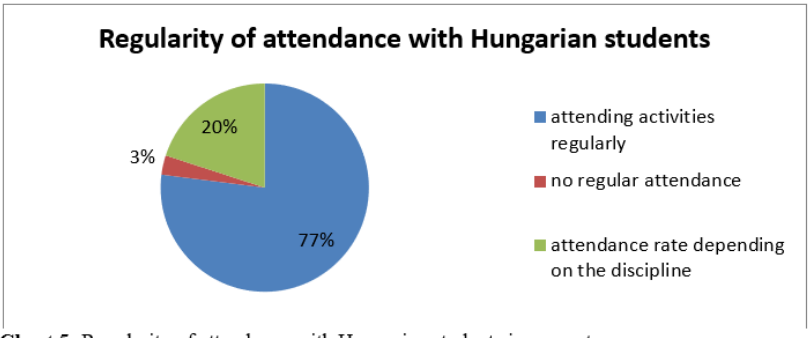

Chart 5: Regularity of attendance with Hungarian students in percentage
Source: own creation

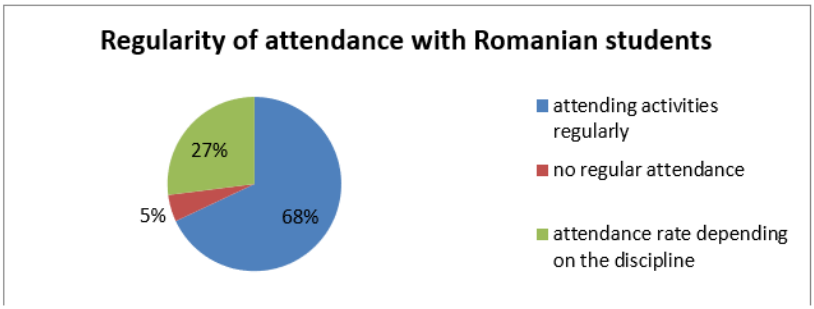

Chart 6: Regularity of attendance with Romanian students in percentage
Source: own creation

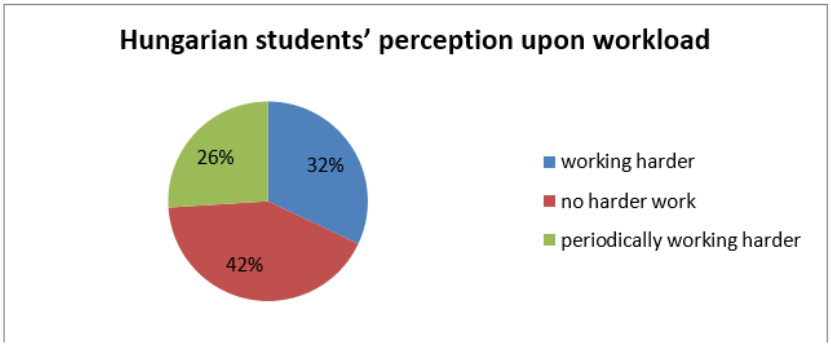

Chart 7: Hungarian students' perception upon workload in percentage
Source: own creation

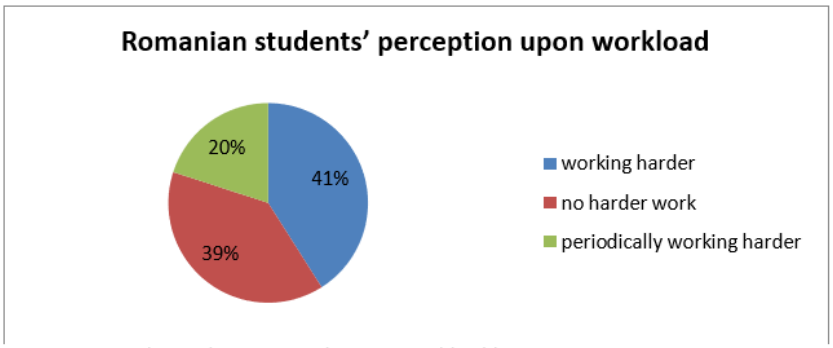

Chart 8: Romanian students' perception upon workload in percentage
Source: own creation

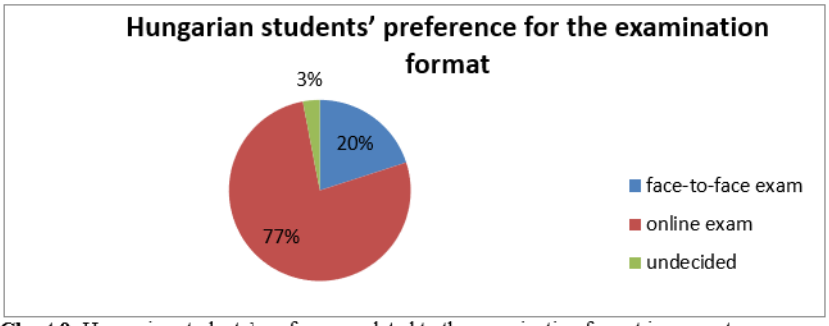

Chart 9: Hungarian students' preference related to the examination format in percentage
Source: own creation

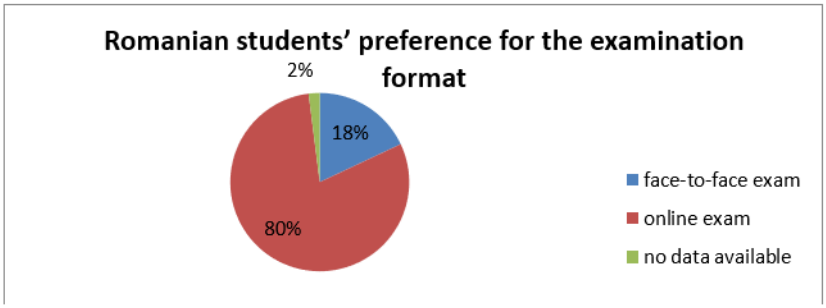

Chart 10: Romanian students' preference related to the examination format in percentage
Source: own creation

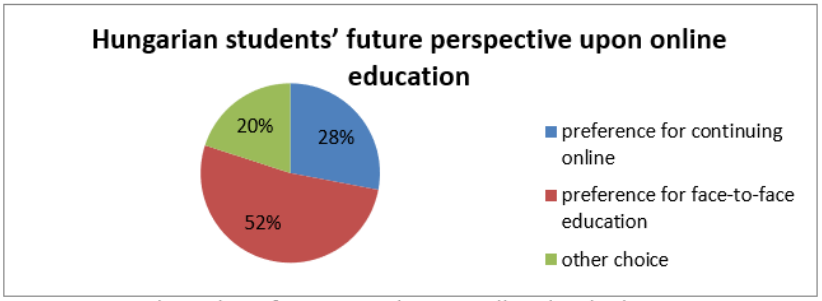

Chart 11: Hungarian students' future perspective upon online education in percentage
Source: own creation

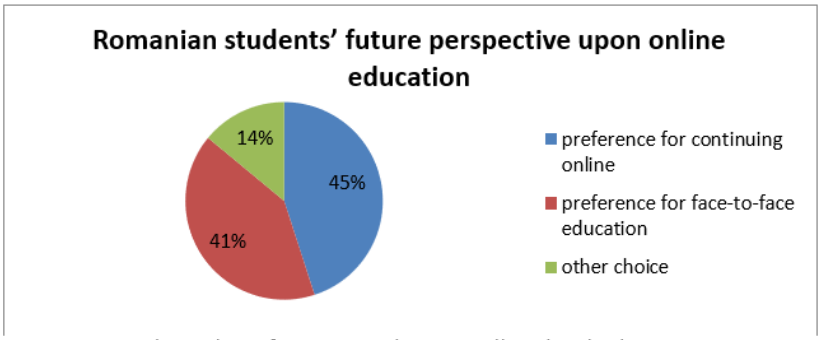

Chart 12: Romanian students' future perspective upon online education in percentage
Source: own creation

The results are conclusive and quite similar between the two national groups. Greater differences emerge only related to their perception upon and future perspective of online education, where a higher rate of Romanian students opted for continuing courses in the online form in spite of having more objections regarding its realisation. However in case of both national groups more than half of the participants expressed preference for face-to-face, or alternative ways of education, like hybrid classes, some of them being neutral or undecided.

Concerning the efficiency of online education, lacking objective, valid instruments of measuring, it is hard to state anything. The grades got by students can reflect in this situation even less than in face-to-face education their real level of competence, as there is no certainty about the identity of the persons completing the assignments or the correctitude on students' side in not resorting to various online sources for help, like google translate or other translation applications in our case. It is only the following years, – when back to physical classes or taking a job – that will reveal the true level of competence acquired.

2.3. Interview With Students

For completing and nuancing the image resulting from the survey, a short, semi-structured interview covering three topics was conducted with 15 participants from a wide range of specialties and all the three years of study at the Faculty of Economic

Sciences, Oradea. Interviewees were asked about their feelings related to online education, missing face-to-face interaction and their psychological profile. Irrespective of this latter one – intro- or extroverted – almost all of the students interviewed missed social, face-to face interaction with mates and teachers, some of them got even somehow depressed lacking it or had the impression of communicating with robots, not having the counterpart in his/her blood-and-flesh reality beside them. Some felt it difficult to put feelings into words, but characterised their sentiments towards remote education as rather negative, or were confused, having the impression of leaving this period behind without any memories; others tried to take benefits of 'being protected by a screen' and overcame their shyness when presenting a project. For some others online education was beneficial, facilitating multitasking and running the own business in parallel, or time and money saving, not having to move to the city of education or to commute, offering safety with respect to the pandemic. Multitasking and the lack of separation between private and professional life was on the contrary ground for complaint for another interviewee, who felt somehow getting to unlike faculty because of online education. Those unhappy with this form of instruction accused also being exhausted by spending the whole day in front of electronic devices. Last but not least the level of frustration caused by lacking social interaction was probably higher with first year students being deprived of getting to know each other and faculty life.

3. Conclusions, Limitations and Future Perspectives

Concluding, we can state that only one of our initial hypotheses was validated: online education had a positive influence upon the rate of school abandonment – though not on that of graduation. But, in spite of the flexibility implied, pointed out in various other studies too (e. g.: Muthuprasad et al., 2021), remote education didn't necessarily contribute to increasing the attendance rate of academic activities, and was not even preferred by generation Z students over face-to-face education. Although they spend a considerable part of their life online, they would dedicate this space rather to socialising and private life than to instruction or work. Beside this, we witness the psychological phenomenon of revaluation of physical contact and social interaction in the offline space, when being deprived of them. To a certain extent these findings are in line with the conclusions of other authors, like Mladenova et al., regarding attendance and learning results, Hamann et al. concerning the impact of online education upon graduation of students, or Hoblijă with respect to students' feelings towards remote education. On the other hand, other researchers document a

comparable or even better student performance due to online education (Zheng et al., 2021). However, the validity of their results is ensured by the use of a remote proctoring software for monitoring during exams, a non-existent facility with our institution.

In spite of being quite complex, our research has got definitely some limitations, as well. The relatively small sample size, resuming the survey only to students, not including also teachers, the impossibility of extending the research upon more countries and of interviewing other participants outside the institution of the author's affiliation, are only a few of them, diminishing the applicability of findings on a general scale. On the other hand they leave space for future research and the conclusions drawn serve for orientation.

Taking into consideration modern educational trends and needs on one side, health and efficiency concerns and the desiderate for social presence in its best form – face-to-face interaction – on the other side, a sustainable alternative for education wouldn't be online instruction, but blended learning, combining both on-site courses/activities, where it is most suitable for the content and web-based, online components, if more engaging. Just to be in the sense of a TEDGlobal talk of Anant Agarwal, students would still need at least one physical classroom: "But I think at the end of the day, I think we will still need one lecture hall in our universities. Otherwise, how else do we tell our grandchildren that your grandparents sat in that room in neat little rows like cornstalks and watched this professor at the end talk about content and, you know, you didn't even have a rewind button?" (Agarwal, 2013).

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