COVID-19 pandemic as an "opportunity window" for the transition towards new and more inclusive internationalisation through virtual mobility
2020-1-CZ01-KA226-HE-094453

Co-funded by the Erasmus+ Programme of the European Union

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COVID-19 PANDEMIJA KAO „PROZOR MOGUĆNOSTI" ZA PRIJELAZ PREMA NOVOJ I INKLUZIVNIJOJ INTERNACIONALIZACIJI PUTEM VIRTUALNE MOBILNOSTI

3. dio

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Projekat pod nazivom „COVID-19 pandemic as an "opportunity window" for the transition towards new and more inclusive internationalisation through virtual mobility“ je projekat u sklopu programa Erasmus+: KA2 - Cooperation for innovation and the exchange of good practices, KA226 - Partnerships for Digital Education Readiness, Project number: 2020-1-CZ01-KA226-HE-094453.

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Glavni koordinator projekta je Česká zemědělská univerzita v Praze, Czech Republic (CZU).

Partneri su: Szent Istvan University, Godollo – Hungary; Szkola Glowna Gospodarstwa Wiejskiego, Warszawa – Polsko; Univerzitet u Sarajevu, Sarajevo, Bosna i Hercegovina; Univerza v Ljubljani, Ljubljana, Slovenija; Sveučilište u Zagrebu, Zagreb, Hrvatska; Slovenska Polnohospodarska Univerza v Nitre, Nitra, Slovensko; Universitatea Agrara de Stat din Moldova, Chisinau, Moldovsko; Universitaet fuer Bodenkultur Wien, Wien, Austria.

Partner u projektu sa Univerziteta u Sarajevu je Poljoprivredno-prehrambeni fakultet i predstavnici: prof.dr. Muhamed Brka, voditelj projekta; prof.dr. Irzada Taljić i doc.dr. Alen Mujčinović.

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Slika 1. Upravni odbor projekta

Pandemija COVID-19 značajno je uticala na obrazovanje širom svijeta. To je također, slučaj tercijarnog obrazovanja. Dovedene su u pitanje ustaljene prakse u obrazovanju i izmijenjene su na mnogo načina. Zabrane međunarodnih putovanja i interna ograničenja pandemije značajno su uticali na međunarodnu mobilnost studenata i internacionalizaciju općenito. U takvim okolnostima, COVID-19 je, međutim, otvorio „prozor mogućnosti“ za inovacije (novosti) u praksi visokog obrazovanja. Ipak, svakoj novosti je potreban određen vremenski period da postane ustaljena praksa, ako se to uopće dogodi. Da bi postale dio “business as usual”, inovacije zahtijevaju ne samo odgovarajuće tehnologije, već i društveno prihvaćanje. Posljednje znači ne stvarati nove barijere. Ovaj projekat koristi takav "prozor prilika". Njegov je glavni cilj uspostavljanje foruma surađujućih univerziteta za korištenje sinergija takve mreže radi odražavanja tranzicije prema novim oblicima on-line učenja među osobljem i studentima.

Projekat također, ima za cilj korištenje takvog foruma za podršku uključivanja studenata i univerzitetskog osoblja kako bi se uspješno nosili s prijelazom na on-line obrazovanje i bili spremni za buduću situaciju koja zahtijeva intenzivnu upotrebu on-line obrazovnih i on-line suportivnih aktivnosti. Takav cilj uključuje i pitanje virtualne mobilnosti studenata i osoblja unutar međunarodnog prostora. To u konačnici znači da projekat ima za cilj testiranje raznih elemenata

virtualne mobilnosti u okviru stvarnog međunarodnog zajedničkog programa univerziteta sudionika. Saradnja univerziteta koji djeluju u različitim nacionalnim kontekstima olakšava takav prijelaz.

Projekat podržava studente i osoblje s 9 univerziteta u srednjoj i istočnoj Europi (uključujući zemlje izvan EU, ali sa značajnim doprinosom zadatku projekta zbog svojih specifičnosti) s fokusom na prirodne nauke i srodne discipline (uključujući društvene nauke) za korištenje on-line obrazovanja i virtualne mobilnosti u situaciji kada je to prikladno i potrebno (kada aktivnosti u kampusu moraju biti zamijenjene on-line aktivnostima). Projekat koristi desktop istraživanje reakcija visokog obrazovanja na pandemiju u smislu njihovog obrazovanja. Na temelju takvog istraživanja, pripremiti će se niz različitih scenarija koji se provode u različitim nacionalnim kontekstima. Ovi će scenariji biti neka vrsta menija koji pokazuje koje mjere i aktivnosti može provesti univerzitet u različitim kontekstima uzrokovanim ograničenjima zbog pandemije (ali to se može dogoditi i kada se suoči s drugim dalekosežnim prirodnim katastrofama koje onemogućuju fizičko prisustvo obrazovanju „licem u lice"). Slično scenarijima koji pokazuju kako bi univerziteti trebali djelovati u različitim okolnostima koje onemogućavaju njihove normalne aktivnosti (neka vrsta scenarija upravljanja krizama), pripremiti će se priručnik najboljih praksi prijelaza na on-line obrazovanje tokom pandemije COVID-19 u sektoru tercijarnog obrazovanja.

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Slika 2. Kontakt osoblje univerziteta sudionika

Zasnovano na meniju scenarija i zborniku najboljih praksi univerziteta su izrađeni materijali za učenje i obuku osoblja i studenata olakšavajući njihovo uključivanje u on-line obrazovanje. Sve ove aktivnosti (scenariji, zbornik i obuka) rezultirale su pripremom alata za virtualnu mobilnost (koristeći virtualnu mobilnost) za korištenje na univerzitetima, sudionicima u projektu, ali i izvan njih jer mreža univerziteta uključenih u ovaj projekat upravlja zajedničkim studijskim programom (Master program DanubeAgriFood /DAFM/ ugrađen je u CASEE /Srednja i Jugoistočna Europa/ mreža univerziteta prirodnih nauka). Ovaj studijski program bit će svojevrsni laboratorij za testiranje virtualne mobilnosti i obuke.

Kao takav će predstavljati koncept živih laboratorija koje je skovala EU. Takav rezultat će se postići kroz desktop istraživanje i istraživanje inventara (scenariji, priručnik); primjere dobre (i loše) prakse (scenariji, priručnik); razvijanje materijala za učenje i obuku poštujući metodološka načela on-line materijala, osposobljavanje osoblja i studenata za bolje prihvatanje on-line obrazovanja bez narušavanja zahtjeva prema znanjima, vještinama i kompetencijama u visokom obrazovanju, te testiranje novih praksi on-line obrazovanja kroz virtualnu mobilnost implementiranu u virtualnoj stvarnosti, uključujući dokumentaciju o njihovim uticajima na osoblje i studente.

Projekat je proizveo materijale koji će biti od koristi kad god se univerziteti suoče sa sličnim ograničenjima kao u slučaju pandemije COVID-19. Kao takvi, oni ne samo da odražavaju iskustvo,

već pružaju i određene smjernice u budućnosti, posebno u smislu prirodnih nauka sa tradicionalno velikim fokusom na fizičko prisustvo edukaciji (nastavi).

Projekat se sastoji iz 4 intelektualna outputa (ishoda):

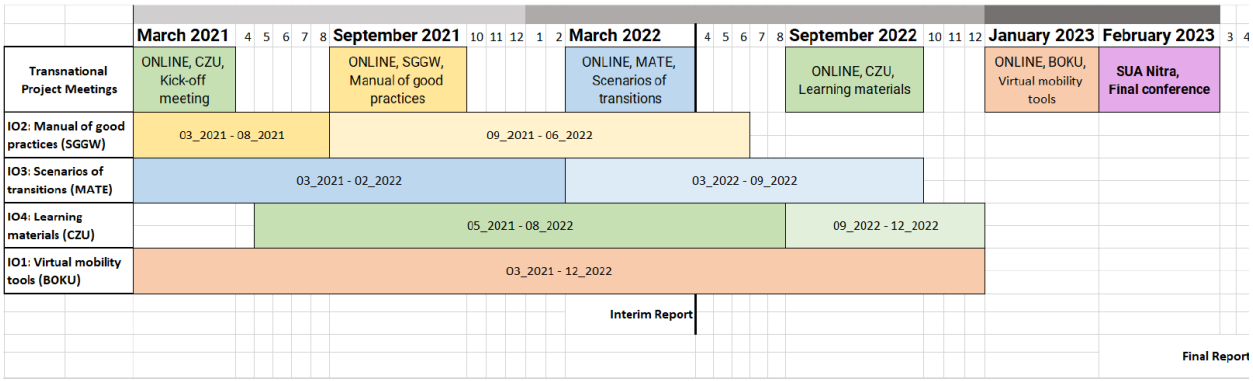
Intelektualni output 1 (IO1) – Alati virtualne mobilnosti;

Intelektualni output 2 (IO2) – Internacionalno uputstvo o primjeni dobrih praksi korištenja virtualnih alata u učenju i podučavanju;

Intelektualni output 3 (IO3) – Scenario odgovora visokoškolskih institucija;

Intelektualni output 4 (IO4) – Edukativni materijali koji olakšavaju uključivanje u on-line sistem obrazovanja.

Project Timeline



Slika 3. Vremenski okvir projekta

U sklopu projekta smo radili na sva četiri outputa:

1. Intelectual output 1 – Virtual mobility tools - Intelektualni output 1 – alati virtuelne mobilnosti podrazumijeva istraživanja o primjeni alata virtuelne mobilnosti u učenju i podučavanju; kreiranje četiri scenarija djelovanja. Prvi scenario obuhvata izradu virtuelne laboratorije za analizu hrane, drugi scenario se odnosi na virtuelnu posjetu šumama u kojoj se radi procjena drvnih resursa, treći scenario se odnosi na upravljanje kriznim situacijama, a četvrti scenario se odnosi na virtuelnu sobu za socijalizaciju, razmjenu informacija i umrežavanje. Napisan je izvještaj (prilog 1);
2. Intelectual output 2 - International manual of examples of transferable good practices - Intelektualni output 2 – internacionalno uputstvo o primjeni dobrih praksi korištenja virtuelnih alata u učenju i podučavanju. Aktivnosti uključuju analizu stanja i potreba različitih zainteresiranih strana poput studenata, nastavnog, nenastavnog osoblja i sl. Razvijene su i provedene ankete na svim partnerskim univerzitetima kao i generalno na institucijama visokog obrazovanja, rezultati su obrađeni. Zatim su urađeni dubinski intervjui sa akterima kako bi se bolje razumjela situacija. Kreirana su uputstva koja će biti distribuirana široj javnosti, a treba poslužiti što boljoj prilagodbi novim uslovima rada, te maksimalnom iskorištavanju dobrih praksi kako bi se unaprijedio kvalitet učenja i podučavanja na visokoškolskim institucijama. Napisan je izvještaj o COVIMO aplikaciji (prilog 2);
3. Intelectual output 3 - Scenarios of reactions in higher education – Intelektualni output 3 – scenario odgovora visokoškolskih institucija. Kreirana anketa, sprovedena i urađena analiza odgovora visokoškolskih institucija na pandemiju COVID 19 i prilagodbu

uslovima rada. Kreirana i sprovedena anketa namijenjena menadžmentu i uredu za međunarodnu saradnju visokoškolskih institucija vezano za pandemiju COVID-19 i prilagodbu uvjetima rada pod nazivom COVIMO Project Questionnaire - only for HEI management and international offices. Napisan izvještaj o Bašti zajednice- Community garden (prilog 3) i izvještaj o rezultatima ovog intelektualnog doprinosa (prilog 4);

4. Intelectual output 4 - Learning materials facilitating inclusion into on-line education- Intelektualni output 4 – Edukativni materijali koji olakšavaju uključivanje u on-line sistem obrazovanja. Aktivnosti uključuju pripremu i analizu upitnika o dobrim i lošim iskustvima sa on-line sistemom obrazovanja kod studenata i nastavnika Univerziteta u Sarajevu. Anketa je distribuirana putem fakultetske web stranice, društvenih mreža i mail adresa. Razvijena su dva modula na LMS Moodle platformi (dostupan na https://learn.boku.ac.at/login/index.php), jedan za studente, drugi za nastavno osoblje. Prikupljeni rezultati su analizirani i napisan je izvještaj (prilog 5). Organizovan je webinar 30. avgusta sa početkom u 10:00 sati pod nazivom: SkillDict. Na youtube kanalu se mogu naći informacije o projektu (https://www.youtube.com/watch?v=SVg62CgLxiI) kao i na web stranici projekta https://covimo.czu.cz/en. Također, napisan je Vodič o podršci (prilog 6).

Finalna konferencija je održana u AgroBioTech istraživačkom centru u Nitri (R Slovačka) 25. i 26. januara 2023. godine. Učestvovalo je više od 40 učesnika iz 9 zemalja. Konferencija se sastojala od kombinacije radionica individualnih projektnih aktivnosti.

U nastavku publikacije slijede rezultati sva četiri intelektualna doprinosa, diseminacija i upotreba projektnih rezulata i finalni izvještaj koordinatora sa Poljoprivrednog fakulteta u Pragu, R Češka.

Co-funded by the Erasmus+ Programme of the European Union

Erasmus+ Programme: KA226 Partnerships for Digital Education Readiness

Project title: COVID-19 pandemic as an "opportunity window" for the transition towards new and more inclusive internationalisation through virtual mobility

Intellectual Output 1: Virtual mobility tools

Coordinator: BOKU supported by partners

University of Natural Resources and Life Sciences Vienna (BOKU)
Czech University of Life Sciences Prague (CZU)
Warsaw University of Life Sciences (SGGW)
Slovak University of Agriculture in Nitra (SPU)
Hungarian University of Agriculture and Life Sciences (MATE)
University of Zagreb (UNIZG)
University of Sarajevo (UNSA)
Technical University of Moldova (TUM)
University of Ljubljana (UL)

Project Nr: 2020-1-CZ01-KA226-HE-094453

Content

Introduction

The Intellectual Output 1 – Virtual mobility tools - was coordinated by the University of Natural Resources and Life Sciences, Vienna (BOKU). Especially the COVID-19 crisis led to the necessity of improved ways for virtual mobility. The focus of the IO1 activities was in the area of life sciences, especially on the need for exchanging know-how and experience in distant learning with advanced laboratory equipment. It is an inclusive element for the consortium partners with limited access to such tools and know-how.

The work has been divided into six work tasks. The results of each work task will be described below. The results can also be accessed from https://covimo.boku.ac.at/.

Work task IO1-1: Deciding on three scenarios to be implemented as virtual learning spaces

In work task IO1-1, the following three scenarios were identified by the consortium partners with the help of an interactive collaboration tool on Google Jamboards:

1) A mass spectrometry lab at BOKU with food commodities to be analysed for elemental content;
2) A virtual learning hall focusing on judging wood logs with different defects;
3) A 360° learning experience to explore a floodplain section along the Danube river was implemented in H5P in two levels of complexity to be used in the Moodle platforms of the partners;
4) In addition, it was decided to add an augmented reality training module on how to do a daily maintenance of a chainsaw.

1, 2 and 4 were produced with the support of the external partner AREEKA (https://areeka.net/en/).

The project team created a descriptive video to highlight the outcomes of the intellectual output O1 (Fig. 1). The video can be accessed at the YouTube channel of the COVIMO project: https://youtube.com/@covimoopportunitywindow2859

Figure 1: Video to highlight the achievements of O1 (https://vimeo.com/user69660336/covimo-o1; drone footage with kind approvement of National Park Donauauen, https://www.donauauen.at/en).

Work task IO1-2: Planning and implementing the room for social exchange in AREEKA Hub

The BOKU student café TÜWI was selected to be modelled in 3D as a virtual environment (Fig. 2). Avatars carrying the logos of the different partner universities were implemented (Fig. 3). The student cafe can be either entered as an avatar or using a camera-based representation (Fig. 4). **The virtual student café can be entered via a link in any browser (recommended is Google Chrome), that can be revoked: https://hubs.areeka.org/WvKtKPN?hub_invite_id=6CpRKTp.**

Figure 2: Virtual Reality student café TÜWI implemented as virtual reality environment.

Figure 3: Different avatars with the partner logos can be selected in the virtual reality environments (student cafe and wood exploration hall) under "Newest".

Figure 4: Camera based meeting in the virtual reality student café.

Work task IO1-3: Designing three online virtual environments using 3D imaging and interactive e-learning tools, allowing for 3D environments together with Teachers

1) The design for the virtual mass spectrometry lab was supported by the Division of Analytical Chemistry at BOKU, who supported the project by giving supervision and input to the selection of activities and elements to be learned by students during a virtual training. Until March 2022, the companies providing the analytical instruments were asked to contribute with existing 3D models of their equipment. Unfortunately, the models could not be provided. That is why the decision was made to model the whole lab in 3D. The modelling and the implementation of the interaction were done by AREEKA, which has been involved in the project from the very beginning.
   The virtual mass spectrometry lab experience was divided into three different interactions that can be accessed via the AREEKA App. You find an instruction on how to download and run the augmented reality experiences using the AREEKA App in the APPENDIX.
   A) A wardrobe to get appropriately dressed to enter the sample preparation room and the mass spectrometry lab with safety instructions (Fig. 5).
   B) A sample preparation lab, where the focus was to prepare vegetables (in our case a carrot) for the analysis of their elemental content and calibration standards (Fig. 6).
   C) The mass spectrometry measurement lab, where the fundamental steps of how to perform a measurement using an inductively coupled mass spectrometer, were implemented (Fig. 7).

The 3 rooms were implemented separately and can be accessed via the AREEKA App using the trigger images (Figs. 5, 6 and 7) below (see APPENDIX for further instructions of how to run the App and especially of how to place the virtual environments in front of you).

Figure 5: Trigger image for the mass spectrometry lab wardrobe and safety instructions to be launched in augmented reality using the AREEKA App.

Figure 6: Trigger image for the mass spectrometry sample preparation lab to be launched in augmented reality using the AREEKA App.

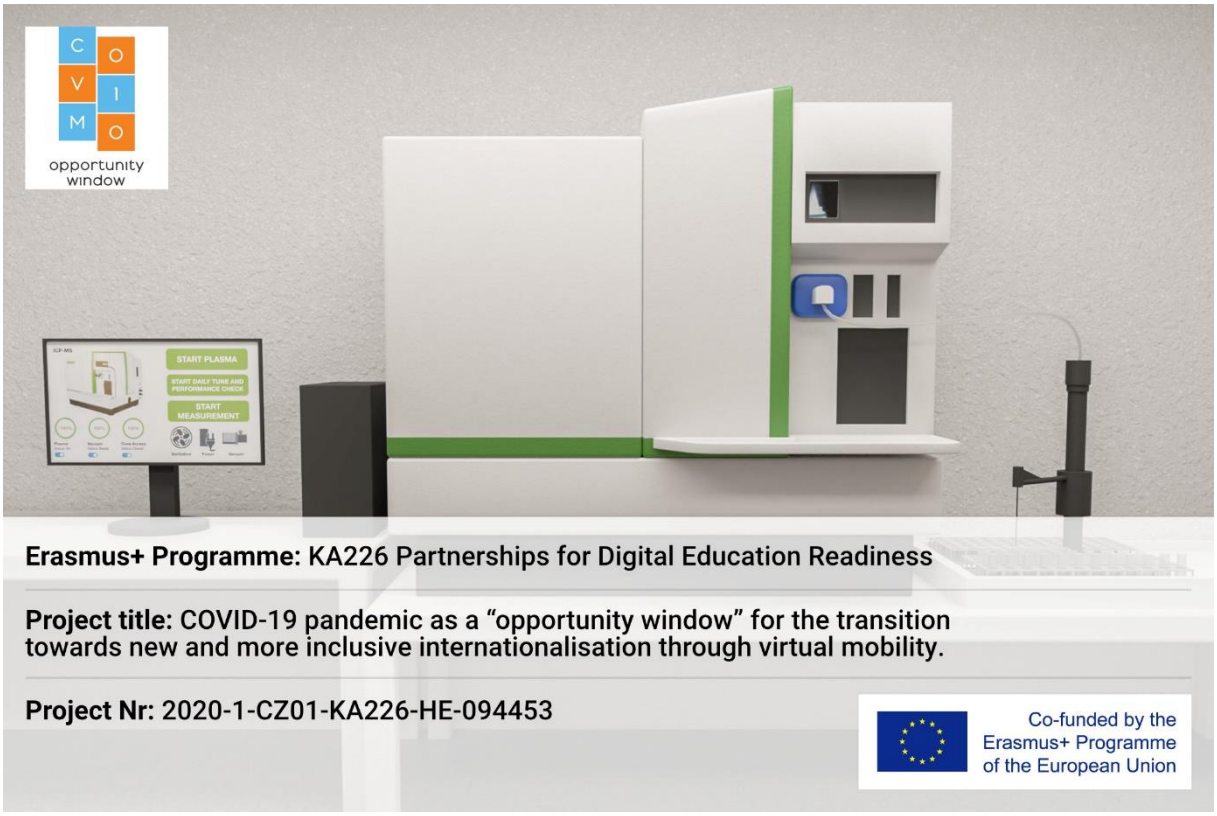


Figure 7: Trigger image for the mass spectrometry measurement lab to be launched in augmented reality using the AREEKA App.

2) Besides the virtual reality BOKU student café TÜWI, a virtual reality hall in a mountain forest (Fig. 8) was set up for learning about defects in wood logs. Two wood logs that show the different defects were scanned and modelled as 3D objects using photogrammetry and were placed as learning objects in the room. Furthermore, three separate "breakout rooms "allow different groups of students to explore different educational resources that can be placed there. **The virtual learning hall can be accessed via the browser, preferably on a Laptop or Desktop PC, using the following link that can be revoked https://hubs.areeka.org/CQTxVsz?hub_invite_id=nYWyxWM.**

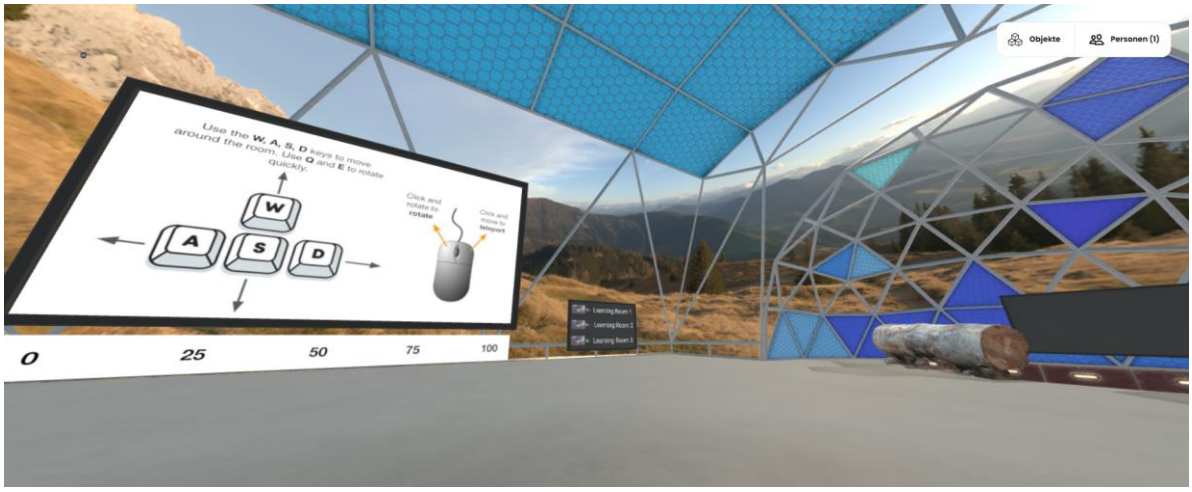


Figure 8: Virtual Reality wood exploration room.

3) 360° images were captured in the floodplain near Vienna. The Institute of Hydrobiology at BOKU was involved in providing input on which elements should be implemented for learning. The interactive learning experience based on 360° images was implemented in H5P to be used on the Moodle platforms at the partner universities at two levels of complexity (Fig. 9). **The 360° experiences can be accessed using the following links (log in as a guest):**

a. Virtual 360° Floodplain tour related to management (complex level) https://projekty2.czu.cz/mod/h5pactivity/view.php?id=36208
b. Virtual 360° Floodplain Tour related to floodplain formation, ecosystem sevrvices and ecology (simple level) https://projekty2.czu.cz/mod/h5pactivity/view.php?id=36209

Figure 9: Interactive 360° floodplain learning experience implemented in H5P to be used at Moodle platforms.

Furthermore, to make the floodplain learning experience available at VR glasses, it was also decided to test the new CenarioVR platform (https://www.cenariovr.com/), where BOKU bought a license. **You can access the simple level experience on your mobile (Fig. 10), tablet, PC or using Google VR glasses using the link or the QR Code below:**

c. https://cenariovr.com/app/#/view/rg9?zfile=live.zip&id=35577

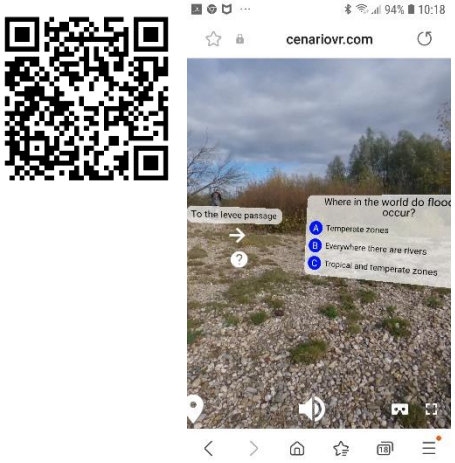


Figure 10: Virtual Floodplain experience accessed via a smartphone from Cenario.com.

4) As an additional learning experience, a **chainsaw daily maintenance was implemented as an augmented reality experience that can be accessed via the AREEKA App using the trigger image (Fig. 11) below.**

Figure 11: Trigger image for the chainsaw daily maintenance to be launched in augmented reality using the AREEKA App.

Work task IO1-4: Testing online labs and social rooms with students and staff collection of feedback

The virtual environments were tested by students and teachers throughout their production to provide feedback to the developers. Students found the experience very interesting and engaging and agreed that such environments could contribute to social learning when implemented along different courses during the curriculum. Especially the possibilities of visual learning, social networking and interaction which might benefit especially introverted students in getting in contact with students, interactivity, gaining insight into complex issues in a fun way, etc., were mentioned. In general, it was realised that such environments could be used to support any kind of learning and that there are no limits to the implementation of learning content as VR/AR experience.

Students also provided ideas for an improvement of the experiences, e.g. to add sound in the natural environments, and that the interactions need to be incorporated in study programmes in a meaningful didactical way.

Work task IO1-5: Set-up of PWA at BOKU

The open-source online environment Siberian CMS running at BOKU was used to implement a Progressive Web App (PWA) to provide mobile access to the project resources (Fig. 12). The advantage of a PWA is that its content can easily be adjusted, and there is no need to publish it to the App stores.

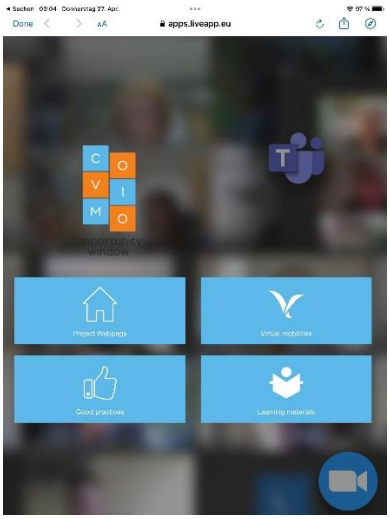


Figure 12: Screenshot of the navigation of the PWA providing mobile access to the project resources.

The App can be accessed from here: https://apps.liveapp.eu/pwapp/63cfdc5703b13/index.html and by using the QR Code below.

Work task IO1-6: Integration of developed scenarios into existing educational programs

As a final step, the scenarios were integrated into the **new Joint Master degree study programme called "Sustainability in Agriculture, Food Production and Food Technology in the Danube Region" (Danube AgriFood Master – DAFM) (https://agrifoodmaster.eu/index.html)**. Teaching staff (together with students as the main target group) have been involved in the production and testing, and quality assurance of the produced interactions. Students have been invited to test and provide feedback for improvement. The virtual mobility tools will be further linked to existing courses, curricula and exchange programs.

The project succeeded in developing and testing various elements of virtual mobility, including virtual reality, with the students and staff of the consortium universities. The full integration into the real international joint programme (Danube AgriFood Master) of participating universities was delayed due to the pilot mode of the programme and the complexity of developing the virtual mobility tools. Nevertheless, students and staff of all the partner universities were allowed to engage in virtual mobility activities and gain experience in using virtual mobility tools for international collaboration and learning. The DAFM programme will be running in full mode from the academic year 2023/2024 when the virtual mobility tools will be fully integrated into the programme.

APPENDIX: How to use AR with AREEKA

1. Download Areeka App for iOS or Android

ANDROID APP ON Google play Download on the App Store

2. Scan Trigger Image
3. Wait until the download is complete.
4. As soon as it is downloaded you can hold the camera over the trigger image and the 3D model will appear
5. You can now discover the model
6. You also get 2 more buttons on the top right corner for different model views
    1. Pin Mode
    2. Place in World Mode
7. Pin Mode
    1. Simple viewing of the 3D model
    2. not AR
    3. can be rotated
8. Place in World Mode
    1. Yellow Cube appears
    2. For objects Place the model about 0.5 - 1 meter away from you
    3. For Rooms (Like Virtual Lab Rooms) place it directly under your feets so you stand in the middle of the room
    4. Adjust scale and rotation of the model as needed
        1. Pinch your fingers to scale the model
        2. Swipe to rotate the model

IO2 – COVIMO APPLICATION

The main objective was to reflect on and learn from the transition to new forms of online education among university staff and students and prepare the list of good and bad practices as support materials for the "Application of Best Practices in Higher Education during the Covid-19 Pandemic".

Link for the application is https://app.covimo.czu.cz/. The application will be continuously updated with new Good and Bad Practices. Arkadiusz Orłowski from Warsaw University of Life Sciences was appointed as moderator of the website within this application.

This application will help to educate students and university staff to cope with the transition to online education. The application is structured into four areas – technological, pedagogical, psychological area and administrative issues. The application is using the filter for good navigation, which is divided into Categories (Good practices and Bad practices) and Tags (Organizational issues, For teacher, Challenges in distance learning, University preparation, For Student & Building a positive environment for online education).

The **individual categories** include Good Practices and Bad Practices. Good practices are marked with a green color and Bad practices with red color. After selecting a practice, its profile will open. This profile includes a description of the practice, tags and category.

The **Pedagogical** area is one of the most comprehensive areas, where most of the Good a Bad Practices will be found. It is basically a guideline on how to create beneficial, interesting and interactive online learning. This area now contains 97 experiences:

Example of Good Practice:

- Limiting cheating in exams - Limiting or reducing response times for exams has proven to be a good way to prevent cheating.
- Technical equipment, adequate staff training and further training in ICT and tools is needed.

Example of Bad Practice:

- Multiple-choice test not working very well. Teachers found out that multiple-choice tests (e.g. ABCD) did not work well in the online environment (e.g. it was harder to prevent students from cheating online)
- ,,Another" Teaching platform - Different teaching platforms could be an obstacle in reaching the basic level of digital skills of different actors (students, teachers, management, etc.). A single platform would increase the overall effort of teachers who already possess significant knowledge in using different online learning tools. It would be easier to transfer such things to other colleagues.

The **Technological** area focuses on increased costs, slow digitalization of procedures, insufficient hardware, etc. This area now contains 44 experiences:

Example of Good Practice:

- Manuals, workshops, trainings and webinars - University staff and students should be provided with: training, manuals, online tutorials, webinars, video tutorials for teachers and students.

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- Online support systems - Everyone (teachers, students and university staff) should use online support systems (e.g. university online helpdesk, center for audiovisual support, an official manual or support service of the service provider - e.g. MS Teams Support).

Example of Bad Practice:

- Insufficient hardware - The system requirements of video education is huge, the system freezes up a lot. Turning on cameras in lectures with a large number of students usually overloads or slows down the entire system.
- Bad technical support - Bad technical support. Limited utilization of all technical capabilities of e-learning. The already existing e-learning system was overloaded, too many users signed in at the same time. Even the big systems were not prepared for a 30-40% increase in bandwidth and load spikes at times.

The **Psychological** area focuses on how to stay focused, motivated and mentally balanced during online learning. This area now contains 20 experiences:

Example of Good Practice:

- Students bonding - Possibility to organize „free meetings" with students, „virtual cafe", to show compassion in difficult times that, in general, lead to stronger bonds and increase in the students' trust and dedication to learn.
- Stress-free home environment - Distance learning provides with a stress-free home environment, but on the other hand home environment provides respondents with many stimuli that distract them/ disturb the attention to educational tasks.

Example of Bad Practice:

- Weak feedback - Ineffective / weak feedback not only from students but also from management (especially in the first wave of pandemic).
- Online distraction - Everyone (mainly students) experienced online fatigue, lower motivation to study online and harder concentration in studying online when being connected to the internet (i.e. study activities were challenged by other available activities on the internet).

The **Administrative** area focuses on the online meetings, document signing simplicity, project budget allocations, travel bans problems, etc. This area now contains 19 experiences.

Example of Good Practice:

- Scheduled appointments - Students should be able to make appointments for *in person* or *online* administration.
- Remote access to networks - Remote access to university computers via safe bridged connections (e.g. OpenVPN) enables undisturbed learning possibilities for all students.

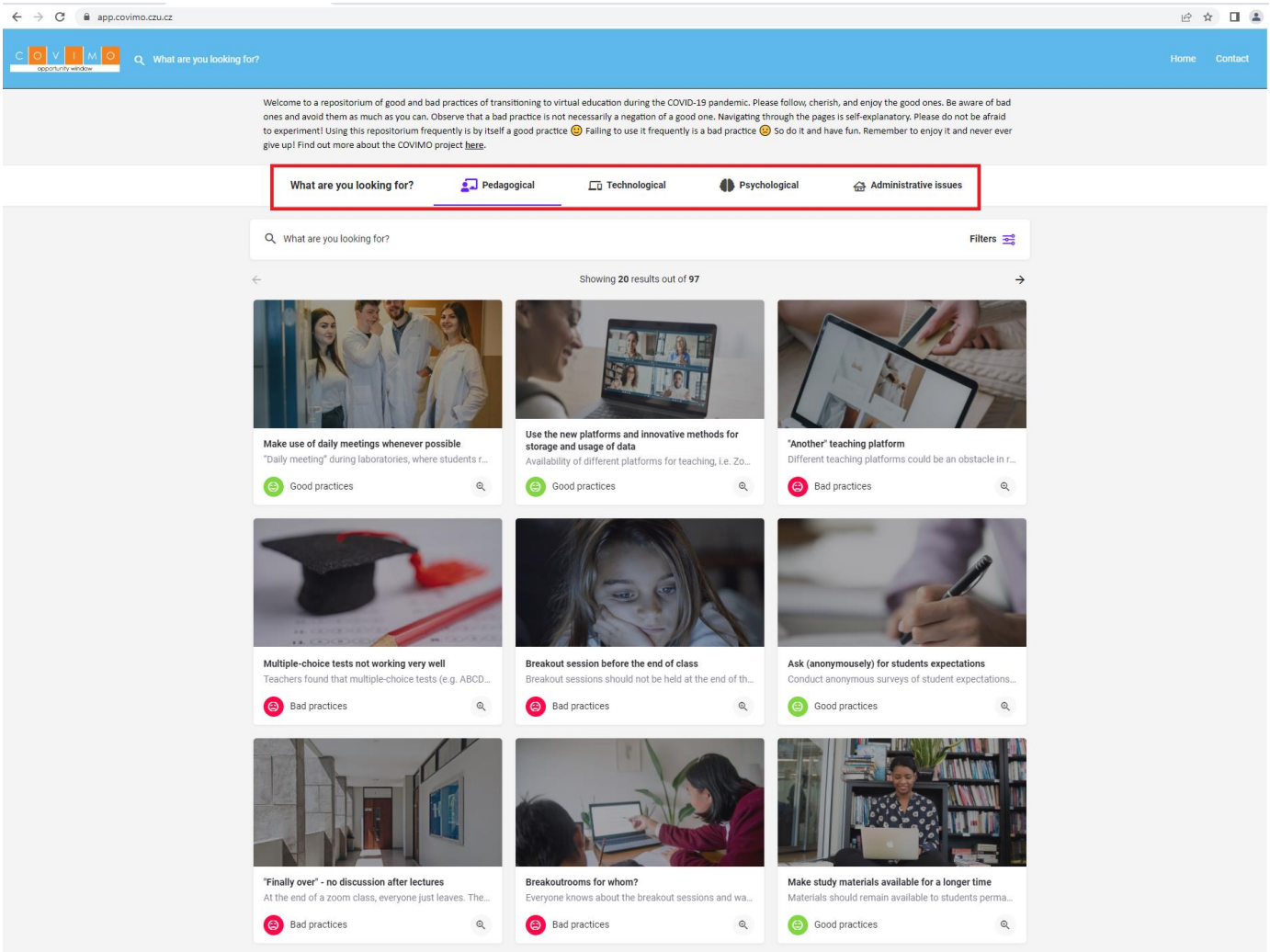
Example of Bad Practice:

- Email backlog - On the other hand, people (both administrative and academic staff) receive too many emails, which is impossible to process, Information dumping etc.

Erasmus+ Programme – KA2 - Cooperation for innovation and the exchange of good practices
Project title: COVID-19 pandemic as an "opportunity window" for the transition towards new and more inclusive internationalisation through virtual mobility
Project Nr: 2020-1-CZ01-KA226-HE-094453

The application website structured into four areas:

- technological
- pedagogical
- psychological area
- administrative issues



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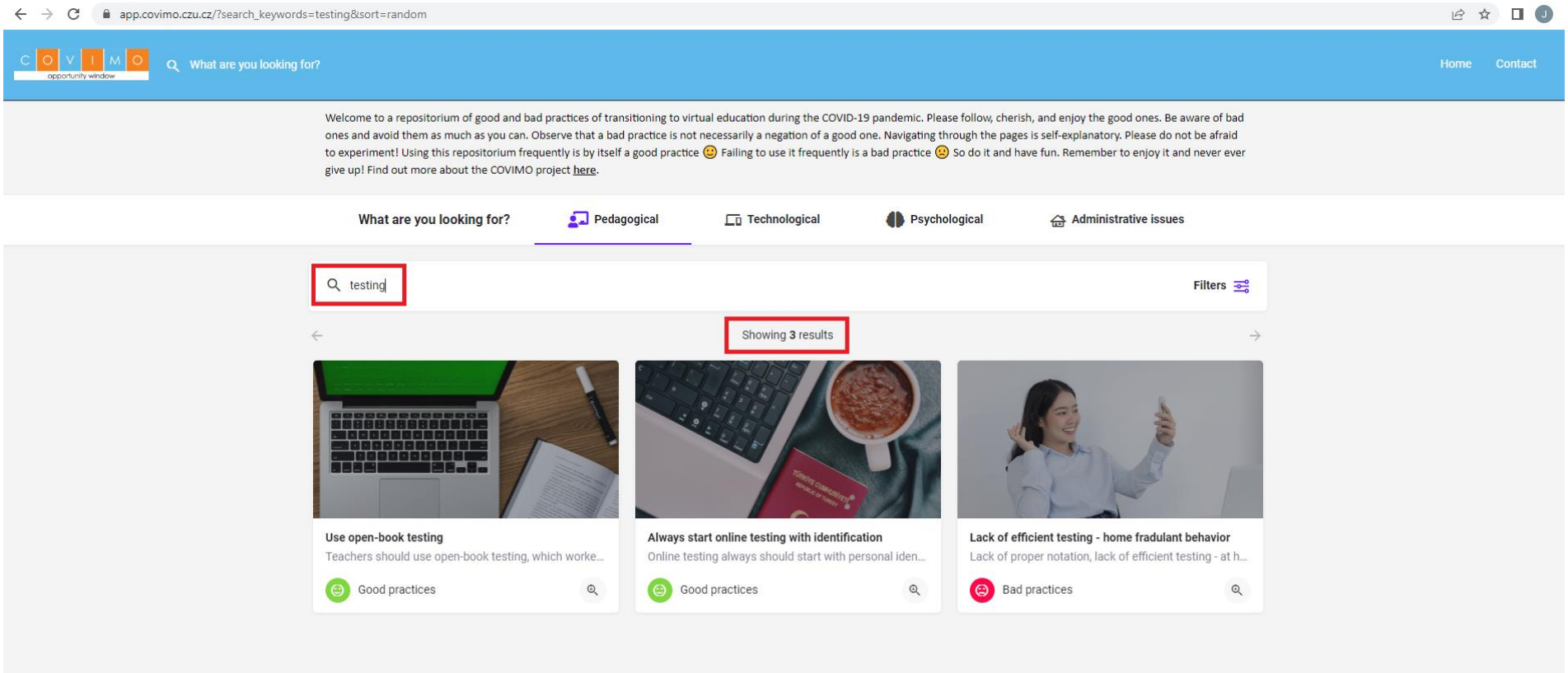
Full text searching within the application:



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Erasmus+ Programme – KA2 - Cooperation for innovation and the exchange of good practices
Project title: COVID-19 pandemic as an "opportunity window" for the transition towards new and more inclusive internationalisation through virtual mobility
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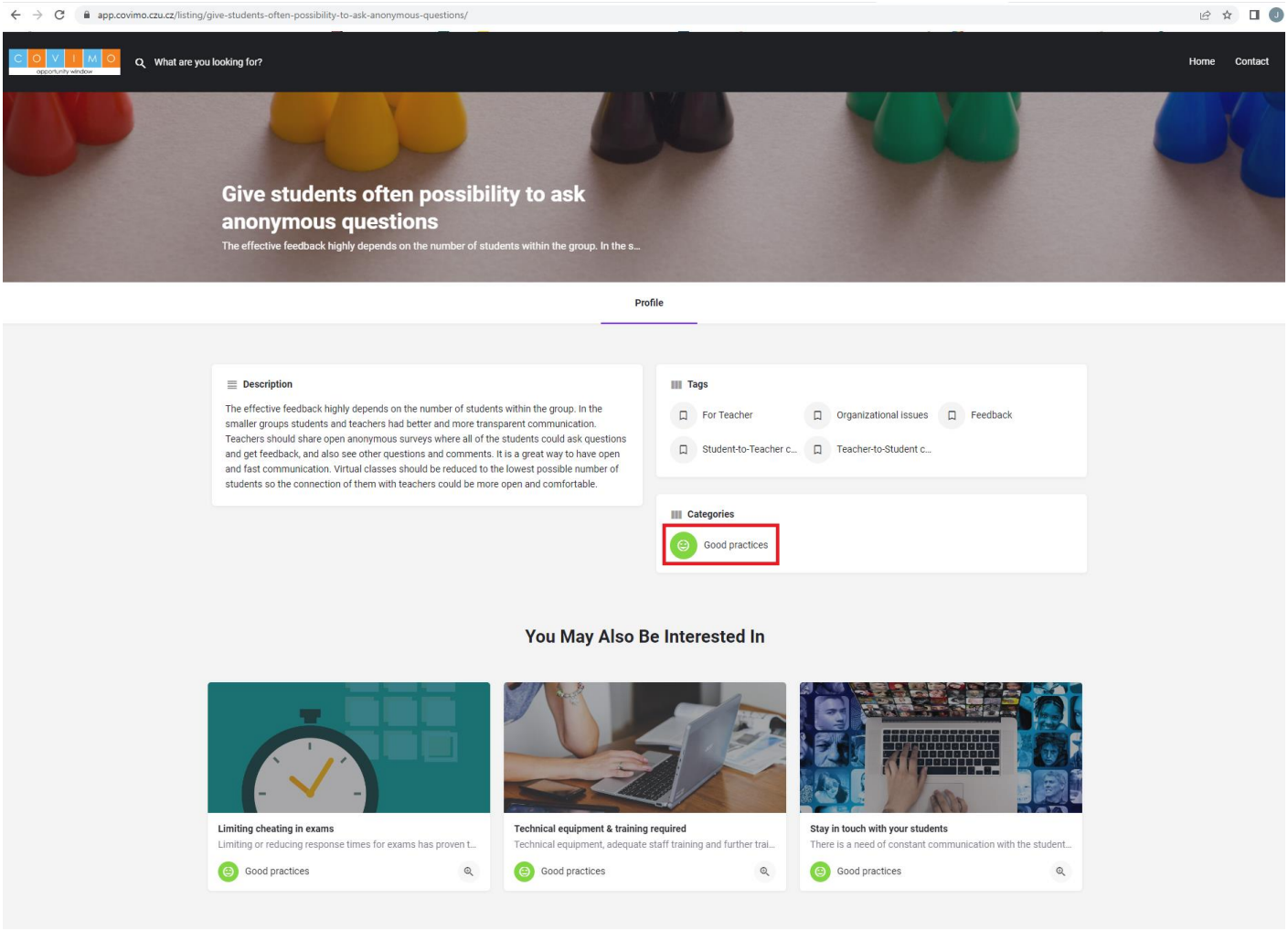
Example of a good practice



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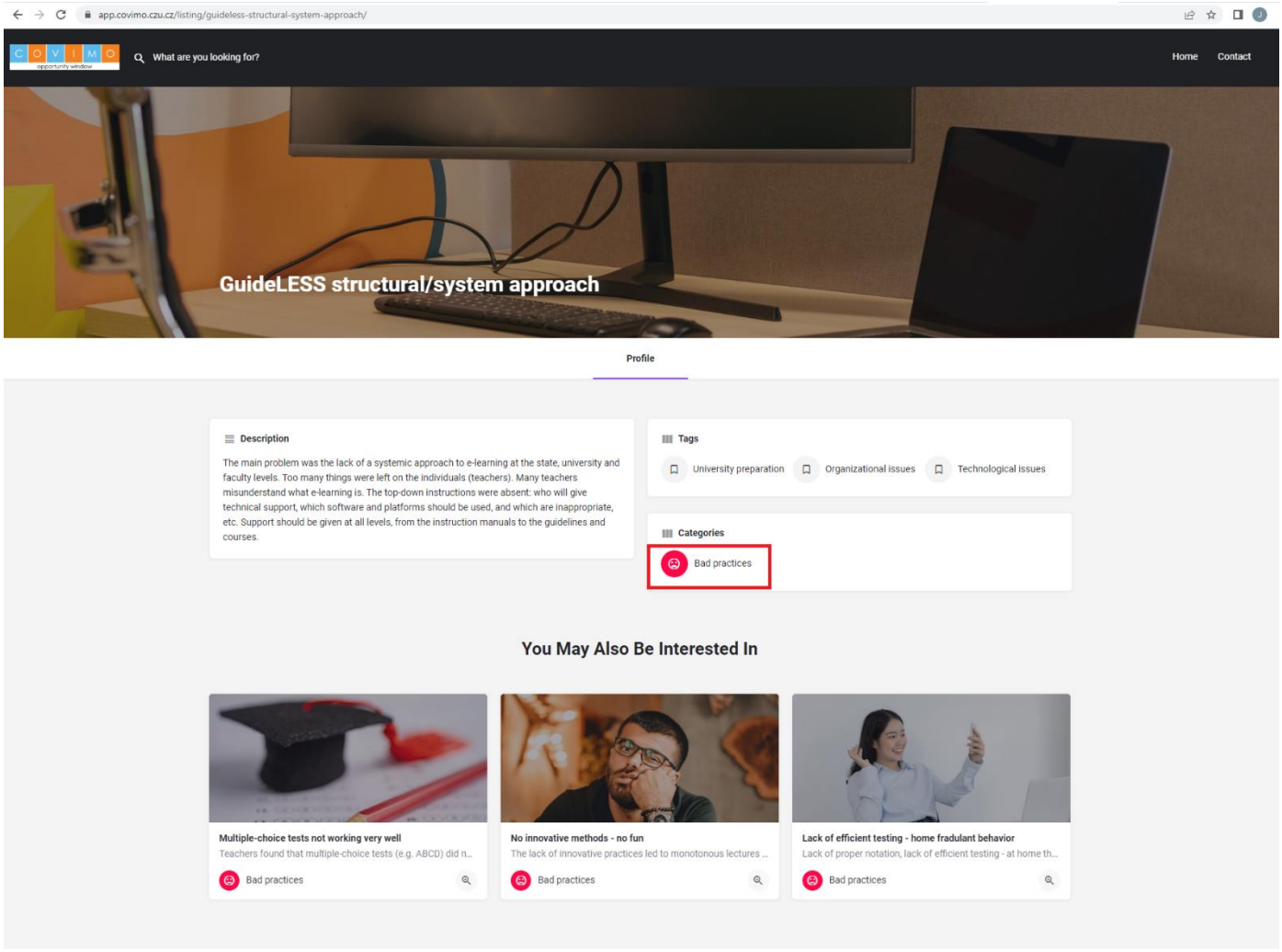
Erasmus+ Programme – KA2 - Cooperation for innovation and the exchange of good practices
Project title: COVID-19 pandemic as an "opportunity window" for the transition towards new and more inclusive internationalisation through virtual mobility
Project Nr: 2020-1-CZ01-KA226-HE-094453

Example of a bad practice:



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SZIA Agroecological Garden of MATE initiative

Life sciences universities have very useful assets that can help them be better prepared for unexpected circumstances. These assets typically include fields or free spaces where physical activities or initiatives can be implemented, which are suitable for supporting inclusiveness. Such an initiative is SZIA Agroecological Garden of MATE, which first helped the international students cope with Covid-19 stress. In the longer run, it turned out that this project offers many ways to develop and if maintained, it can be a good starting point for various spin-off activities.

Background and history of the Garden

Founder of the Garden: María Fernanda Ramos Díaz, Ph.D. candidate Economics and Regional Science, MATE

Strategic partnership and support - MATE - International office, Diversity Foundation, TIKA Turkish Cooperation.

When lockdown measures due to COVID-19 pandemic were announced in Hungary in March 2020, Hungarian students were asked to leave to their homes. But hundreds of international students of MATE, who reside in Gödöllő Campus dormitories needed to change their daily routine and their plans for the summer ahead due to the covid measures. Classes went online, limiting students' mobility and social interactions. In addition, the indefinite lockdown cancelled their plans to travel home, work or go on holiday. Consequently, the students were exposed to high level of stress and anxiety that needed to be addressed immediately, using the resources available under these unprecedented circumstances.

This is how the "International Students Community Garden" emerged as a student-based initiative to alleviate the physical, emotional and economic impacts of the lockdown through the creation of an agro-ecological garden that promotes outdoors hands-on work, social development and the regular provision of healthy, fresh and affordable food for the members of the group.

The project was announced in social media with a positive response from 61 students, who registered initially. The work started in a 400 sqm field at the Horticulture Institute of MATE with the constant participation of about 25 students who prepared beds, planted seeds, transplanted seedlings and watered the garden in daily turns. The garden work was complemented with activities such as:

- Field visit to Diversity Public Utility Foundation's "Holdvilág" (Moonlight) social organic garden were the students learned about social farming and attended a workshop on how to make compost and a natural fertilizer.
- Harvest events, where the students could cook on site and share the traditions of different countries.
- Planning and evaluation meetings.

TIKA sponsorship:

- Greenhouse

- Driven well and irrigation system
- Polycarbonate cover to the existing Dutch beds
- High beds – newly built
- Cooling container with air conditioner
- Pavilion
- Kitchen ware, soup warmer
- Thermomix: the most versatile kitchen machine in the world. The innovative appliance combines the knowledge of twelve kitchen appliances with the latest state-of-the-art technology for basic comfort. It replaces over 20 appliances in one sleek, compact unit that packs enormous power, versatility and innovation. So you can chop, beat, blend, whip, weigh, mill, knead, mince and more at the touch of a button.
- Reconstruction of a community room and restrooms
- Gardening tools (spade, hoe, rake)

MATE support:

- Purchase of seeds as well as
- Food and drinks to garden events
- Contribution to the long-term sustainability with permanent assistance and offering traineeship position

Location of the student community garden

In the territory of MATE, in the neighbourhood of the main building of the university and railway, bus and suburban train stations, there is a fenced area of cc. 6700 sqm partially used by the park maintenance group of MATE. Approximately. 2000 -2500 sqm of the area is available for the development of a student community garden, with a small storage facility for tools, and restrooms for the students. Some of the existing below-ground hotbeds are also accessible for plant growing, only new windows are needed for coverage.

Appreciated visitors in the Garden

The work of the students to alleviate the impacts of the lockdown was recognized and supported by MATE and Gödöllő town community as the garden initiative was featured in a local newspaper and the webpage of MATE. These appearances got the attention of national authorities like the State Secretary of the Ministry of Foreign Affairs and Trade, Ms. Orsolya Pacsay, and the Hungarian celebrity Chef and food blogger Ms. Zsófia Mautner (https://chiliesvanilia.hu) who visited the garden and shared time with the students.

Challenges in the Garden

There were some challenges in front of the students with respect to the crops' health. Different pests and pathogens were found to affect the crops, for instance, Colorado potato beetle (Leptinotarsa decemlineata) was affecting the potatoes and the volunteer students had to remove them by hand. This problem was tackled by the use of biopesticide which contained Bacillus thuringiensis var. tenebrionis. Potato plants were sprayed from the top to the base of the plant to repel/kill these insect pests and after a 3-week treatment, the results were noticeable. This shows the growing importance of different biological control agents such as entomopathogenic and antagonistic fungi,

entomopathogenic nematodes and different medicinal plant extracts to treat such pests. Therefore, in order to reduce/omit dependency on chemical pesticides and to promote sustainable agricultural practices, we developed a product named ImMuniPot®, which means Immunizing the plants using Municipal waste as Potting medium to grow these plants. Several research works have been done understanding the role of compost-infuse with different biological control agents used as potting medium for different crops. The advantage is that the plants get naturally immunized to several pests and pathogens which help them grow better and yield better and all the produce is organic devoid of any chemicals.

Harvest

After just 2 months of work, the students started harvesting some of the 68 different varieties of the 42 species of vegetables, medicinal and culinary herbs, and flowers that are grown in biological way without the use of any artificial input. At the end of August, the garden counts with about 600kg of food harvested, with an approximate commercial value of half a million Hungarian forints (cca 1500 EUR). The food collected is distributed to the members of the garden free of charge.

In addition, the excess products are now available for sale every Thursday in a Community Market outside the dormitory. Students and the university community in general, who do not participate in the garden work, can access to fresh veggies at affordable prices on donation based.

The diverse group of students (nationalities, ages, faculties) involved in the project were able to learn innovative agro-ecological practices, develop leadership skills, alleviate the stress caused by the uncertainty of the circumstances, increase their awareness about food and environmental issues, diversify their diet and save money, among other important lessons.

The success of the project is shown by the institutional recognition and the motivated group of participants who aspire to turn this initiative into a long-term project. The “International Students Community Garden” will move to a new phase in cooperation with our sister garden “Holdvilág” run by Diversity Public Utility Foundation. This alliance will set the foundation of a resilient student community that will be strong and prepared in times of distress.

Host organization – Diversity Public Utility Foundation

Diversity Foundation – operating in Gödöllő and the surrounding area from 2008 – would act as a host organization for the community of international students, providing a stable operational background and offering continuous cooperation, based on the ever-changing environment and the needs of the students. The mission of Diversity Foundation is to build an inclusive society that operates in harmony with our natural environment, where disadvantaged people are given support for personal development, expanding their skills enabling value-creating work and joining the community. The activities of the foundation include the social and labor integration of disadvantaged people, job placement for vulnerable people, education activities about ecological farming and green lifestyle (household, gardening, upcycling) and the operation of a social garden for education, development and reintegration. Diversity Foundation has been participating in and coordinating Erasmus+ international partnership projects in the field of vocational education. The foundation has experience in working with volunteers, in 2019 their number was over 70.

More information: https://diverzitasalapitvany.hu/diversity-foundation/

https://www.facebook.com/diverzitasalapitvany/

The role of the Department of Ecological Farming in the student community garden

The Department of Ecological Farming will represent a priority discipline - organic agriculture and agroecology - in the new structure of MATE University. Colleagues of the department have a lively working relationship with Diversity Foundation, since they work together in international projects, and contribute as invited lecturers to the foundation's ecological trainings. MATE students attended regularly ”Holdvilág” Social Garden operated by Diversity Foundation as a guided practice session within the framework of the courses ‘Organic crop production’ and ‘Sustainable farming’. The department undertakes to perform the professional supervision of the planned student community garden and to have further close cooperation focusing on education. The community garden would function as a practice-oriented training location for interested students providing them an environmentally and socially exemplary good practice.

Infrastructure development and budget plan

After several discussions with the students’ representative, ideas about the community garden were collected and plans were elaborated. The most important development needs are the following:

- polytunnel for seedling and plant growing;
- windows for existing hotbeds for extending the growing season;
- storage building for harvested vegetables with insulated and refrigerated cold room;
- vegetable pricking/washing + community area with washing station and outdoor kitchen equipment;
- drip irrigation system;
- gardening tools;
- wood raw material for the construction of raised beds, composting frames, etc.

Visual design drawings of the planned garden were created by our university students:

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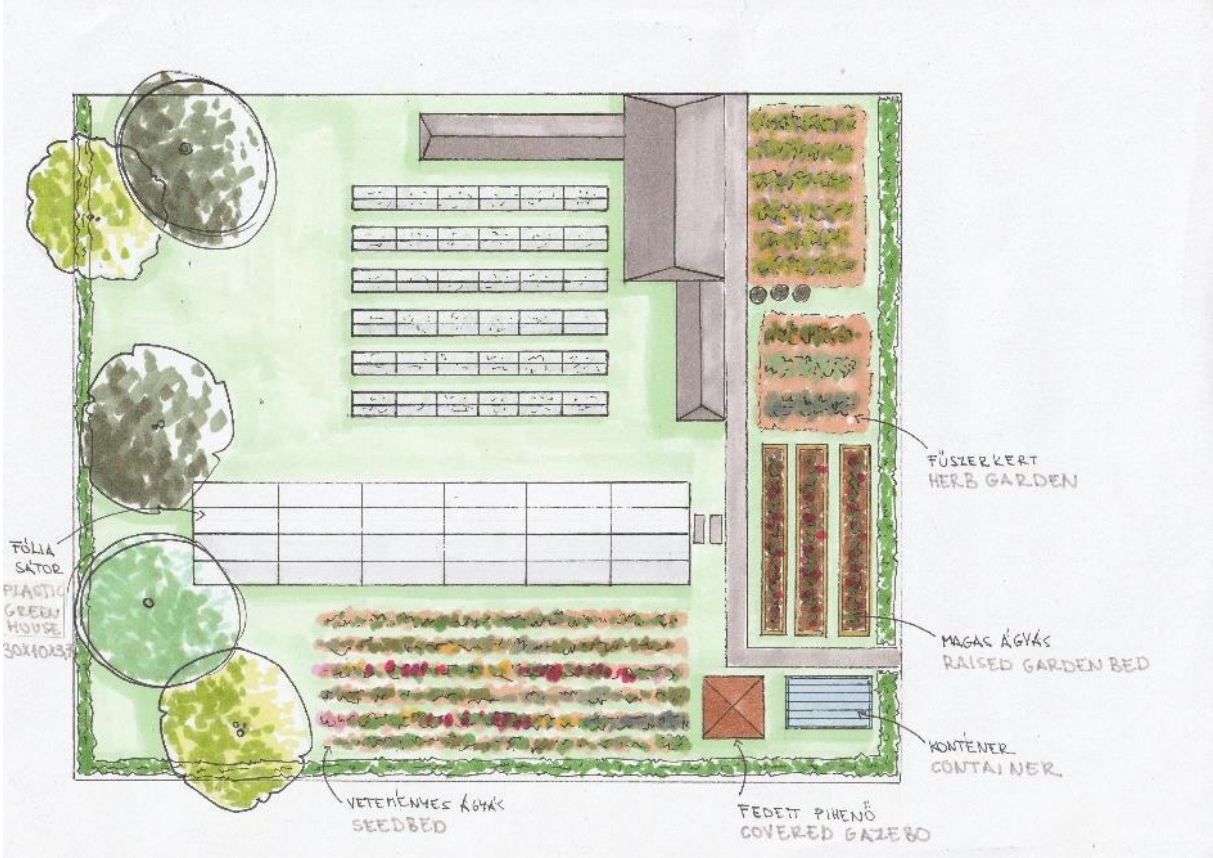
Layout design of the area



The processing of vegetables, fruits and other crops produced in the student garden could be realized in the food processing laboratory. Acquisition of additional processing equipment that could be used for processing, preservation and packaging is necessary. Processed products can be sold at the university (buffet, dormitory, etc.) or at „Kútház Café" on the campus.

The figure below illustrates well that the planned Student Garden, located on the campus, approx. a 5- minute walk from the student hostel and a 5-minute walk from the food manufacturing laboratory. The vegetables, fruits and other crops produced by the students can be processed on the campus, or the products can be transferred from the production plant to the dormitory, the university or Kútház Café. In this way, the "From farmland to table" mindset can be realized on campus.

Goals and impacts of the International Students Community Garden

The operation of the planned community garden fulfils multiple goals and provides many benefits to the students, such as opportunities:

- to learn and share innovative agro-ecological practices;
- to create and accomplish individual projects;

- to develop leadership skills;
- to integrate into the local community;
- to increase students' awareness about food and environmental issues;
- to diversify students' diet and save money;
- to alleviate the stress by providing outdoor activities in natural environment;
- to contribute to the university community in a meaningful way.

Social Results

Publicity

- Social recognition and connection with the local community.
- Broadcast in local newspaper.
- Recognition of the university.

Community

- Strengthening of the student's community.
- Sense of belonging and pride.
- Developing social skills such as teamwork, planning, management, leadership style.

Practicality

- Learning alternative agricultural practices that can be applied back at home as source of food, work and income.
- Access to healthy and diverse food.

Testimonials

"Hopefully, at the end I'll be a good farmer and inspiration to others when I get back to my country."

"I believe the knowledge I will get from the community garden would be helpful to me and my country Tanzania."

"…I want to increase my gardening experience and learn a new agri-technology. Because when I go back home, I want to establish an organic farm as a private source of income."

"Now when I go to the market, I cannot see the products in the same way. Now I know how much time and effort they need to grow. Now I value food more and I do not waste."

"When you said that you will grow food without any pesticide, I wanted to see you make it happen. I saw it and now I am a believer."

Internship program for the Students' Community Garden

- Question of long-term sustainability (Fernanda is graduating next year).
- Managing student work and keeping in touch with the professional gardener requires a lot of effort and commitment.
- The Garden Project needs 1-2 students at least for a whole season to be sustainable.
- Within Erasmus+ International Credit Mobility Programme (MATE is the most successful university in Erasmus + ICM in Hungary).
- MATE has relatively high quotas for incoming student mobilities.
- Life Sciences partner universities from all over the world:
- Argentina, Bhutan, China, Dominican Republic, Ethiopia, Fiji, Ghana, Indonesia, Iraq, Jordan, Kenya, Kosovo, Moldova, Morocco, South-Africa, Tunisia, Ukraine, USA, Kazakhstan, Vietnam
- MATE announces a 12-month internship mobility opportunity from October 2022 for students in Kenya, Bhutan and South-Africa
- Applicable model in all EU countries (Erasmus Programme Countries).

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Guidelines on how to start and run a students' community garden

1. Start small scale

If you as a university employee plan to support students' community activities such as a garden, the easiest is to start it in small scale. If you work for a life sciences university, your institution should have smaller unused land areas to start with. If you see persistence, development and self-organization of students, you can support them with smaller amounts of money that is available for you from your department budget. At this level, the activities can be planned only semester by semester, longer term preparations and planning are not carried out. Activities and work are done by enthusiastic students. Unfortunately, this level means that the initiative stops after the enthusiastic students finish their studies.

2. Upscaling the project

For upscaling the students' project, you will need a dedicated student leader who takes the responsibilities and tasks related to the garden. Tasks can involve planning the gardenwork, planting, cultivating, harvesting and organizing related events, e.g. students' market or joint cooking evenings. Tasks can be colourful and varied.

After the project has reached a certain level, the students need to be organized and the best is if the responsibility of is taken by one of them. At this point, longer term preparations and planning becomes necessary and the budget support may be raised, if possible. If not, this is time to encourage the students or their leader to look for external donations, support or funds to apply for. You may also need the help of university organizational units in order to offer the initiative a university coordination as well. Such a unit can be a dedicated department, Students' Union, International Office or a Student Services Unit.

3. Making the project run long-term

The university unit coordinating the student initiative should be responsible for making it run for long. It can involve a lot of different tasks (giving professional advice, giving administrational or financial support to students, connecting students with other university units or external stakeholders) but all of them should focus on ensuring the best framework for the initiative. The most important tasks of these units are to ensure the continuity of activities through an appropriate funding scheme and to work with the student leader as the representative of the initiative. Therefore, the coordinating university unit should not be involved in the daily work of the initiative but it is advised to ask for reports and disseminate results regularly.

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COVIMO Intellectual Output 3

Summary

In the application for COVIMO project (COVID-19 pandemic as an "opportunity window" for the transition towards new and more inclusive internationalisation through virtual mobility), the overall objective was to reflect on the "opportunity window" for innovations (novelties) in higher education practices opened by COVID-19 pandemic within the consortium of collaborating universities. For this reason, the Hungarian University of Agriculture and Life Sciences (MATE, former Szent Istvan University) aimed to develop some scenarios of reactions in education to the measures aiming at minimizing the pandemic COVID-19 at various universities within a different national context. The scenarios will be developed in the way indicating possible reactions in the future if a similar situation of natural disaster blocking and demonstrating how they might support (or block) inclusiveness. Therefore, they will be a sort of scenarios-guidelines how to proceed under various circumstances and reflecting the nature of life-science universities. Parallel to the scenarios-guidelines, a real-life student-based initiative will be presented within COVIMO project, which can be used as a good means of lessening high levels of stress and anxiety that needed to be addressed immediately by using the resources available within the unprecedented circumstances. These resources are typically owned by life sciences universities, therefore it can be easily adopted in different scenarios. The initiative used to be called "SZIA International Students Community Garden", now it is the "SZIA Agroecological Garden of MATE" initiative which promotes outdoors hands-on work, social development and the regular provision of healthy, fresh and affordable food for the members of the group and the university community in general.

What benefits can be expected

What we expect from the scenarios-guidelines is that some simplified descriptions of how the future may develop, based on a set of assumptions about driving forces from reference literature, can help life sciences universities to lessen the negative impact of unexpected adverse situations such as Covid-19 pandemic has been. The good practice of SZIA Agroecological Garden of MATE is expected to be an easily transferable and very flexible innovative opportunity for life sciences universities, which can be incorporated

What are scenarios? Deloitte model

"Scenarios are stories about what the future may be like, created through a structured process to stretch thinking, challenge conventional wisdom, and drive better decisions today. They are not predictions about what will happen. They are hypotheses about what could happen, designed to open our eyes to **new opportunities or hidden risks**." (Deloitte 2020)

In order to depict possible scenarios based on lessons learned from Covid-19 pandemic for Life Sciences universities, an early model of general scenarios for higher education over the coming 3-5 years was used, made by Deloitte in 2020, as a starting point. At that time, Deloitte drafted four possible scenarios for higher education, depending on two fundamental variables: the severity of the pandemic and the level of collaboration within and between countries. These scenarios are called by the expressive names the Passing Storm (relatively constrained disease dynamic, effective health system and policy response), Lone Wolves (severe, rolling pandemics, insufficient global coordination and weak policy response), the Good Company (more prolonged pandemic, collaboration to control the pandemic led by large companies) and Sunrise in the East (severe pandemic, collaborative health response led by East Asian countries). To summarise briefly this model, we can say that the impact of The Passing Storm scenario resembles that of an economic recession, causing growing social divisions in society. The Good Company model describes the growing role and demand of corporations in higher education, Sunrise in the East shows the shift of trade and economic power from West to east that brings the emergence of Asian higher education, and the main threat of Lone Wolves scenario

is isolation at all levels (in global and regional economies, institutionally, individually) and the emergence of greater class divide.

Having passed two and a half years of publishing the above scenarios, now it can be stated that all of them have useful and adaptable findings for us that we use in our scenario guidelines/recommendations. First of all, the system of identifying signals and signposts, context and higher education characteristics, and then giving a more detailed descriptions of the ecosystems, students, employers and funding is taken as a good example. Secondly, some of the potential opportunities that Deloitte listed as independent of the pandemic impact were taken into consideration as opportunities driven by the pandemic. Thirdly, we also used severity/scale of the event as one of the factors determining the characteristic features of the scenarios, however, the other variable we chose is different (preparedness level of the institutions).

The Questionnaire

Our survey started with the institutional data. First we asked the respondent's position and the respondent's e-mail which was an optional choice because we wanted to have a completely anonymous survey in order to have more honest answer. Then we collected institutional data such as the name of the institution the region where the institution is seated or located the country city and the type of the institution and the profile of the institution and the size of the institution as in number is in the number of students.

The second main part focused on COVID-19 measures after the first outbreak of it in the in the given country in this part we asked questions which were related to the country measures.

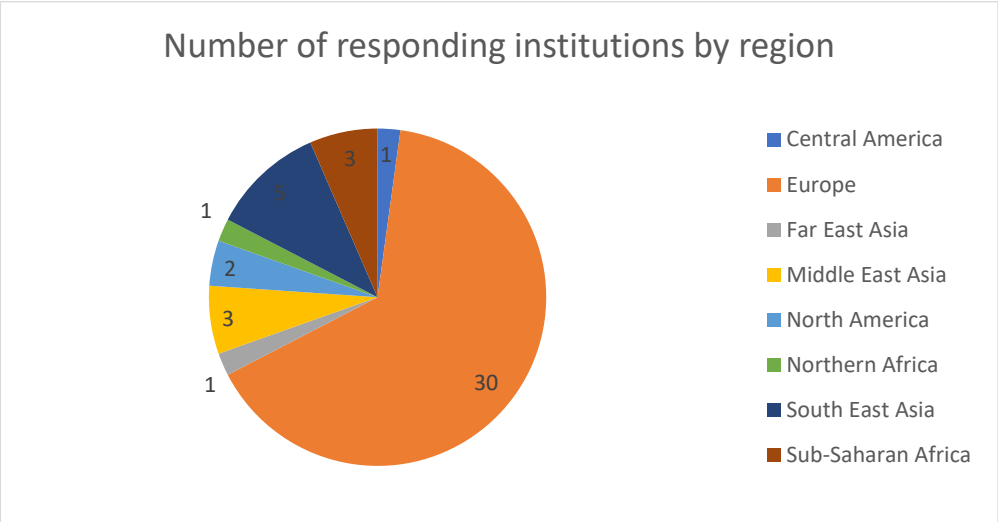
General information

The questionnaire was sent out to partner universities on 10 January 2022 and completion was closed on 13 April 2022. The format was a Google Form, voluntary and anonymous. The questionnaire was distributed via an email among MATE and COVIMO partners. Most of the questions in the survey were closed questions i.e. to choose between certain options, however, there was one optional open questions.

The main objective of the questionnaire was to collect and assess information about the transition to online education only from organizational aspect during the first COVID-19 pandemic period. In other words, it did not concentrate on online learning devices or e-learning education, only how the transition took place within the organization. In order to narrow down the scope of respondents, the questionnaire aimed to collect information only from higher education management and international offices of universities.

Respondents' profile

Altogether we received 67 answers. Divided by continents, there were 3 respondents from the Americas out of which 1 respondent was from the Dominican Republic and 2 from the USA; 32 respondents from 18 European countries (Austria, Armenia, Bosnia & Herzegovina, Croatia, Estonia, France, Germany, Great Britain, Italy, Lithuania, Moldova, Netherlands, North Macedonia, Poland, Portugal, Romania, Serbia, Slovak Republic); 12 ones from 9 Asian countries (Syria, Vietnam, China, Uzbekistan, Bhutan, Indonesia, Sri Lanka, Kyrgyz Republic, Cambodia); and 13 ones from 3 African countries (Morocco, Kenya, Ethiopia).



30 universities from Europe, 3 universities from the Americas, 9 universities from Asia and 4 universities from Africa. Seven of the replying institutions are private universities, the others are public institutions. Only one institution defined itself as a tertiary level college. 32 institutions defined themselves as research universities, 17 of them are universities with several schools and faculties in many fields of sciences, two of them are specialized universities in one or two fields of sciences and 13 institutions offer courses only at undergraduate and master's level. 11 responding organizations were applied sciences universities. Two institutions chose "Other" for the type of the institution, one of them is an Academy offering tertiary courses in Public Administration while the other is a national agrarian university that we added to the group of research universities.

As for the size of the institutions, the majority can be referred to as middle-sized universities having a student population between 5000 and 50,000 (25 universities). 17 institutions are much smaller with maximum 5000 students, and only 4 universities have more than 50,000 students.

The answering organizations have various educational profiles, however, there is only seven of them which do not have Agriculture and Agriculture-related Sciences or Life Sciences such as Medicine and Health Sciences in their profile. Therefore 39 institutions of the total can be considered as life sciences universities in whole or in part. There are 14 universities which are specialized either in agriculture or in life sciences and it is referred to in their names as well.

The respondents could give their position in the institution by choosing from four main categories: one of the senior managers of the institution (3), a member of the management team but not a senior (6), a member of the international department / office (30), or other (4). One person referred to that they are a member of the management team and also member of the international department, and two senior managers belong to the international department as well. All in all, 30 respondents (approx. 65%) were from the international departments / offices, 12 people represent the management (approx. 26%) and 4 people chose "Other" category (8,7%).

Since several people answered from one institution in case of five partner institutions, the number of the respondent partners was 46 altogether. In case of multiple replies, we kept every answer if the respondents were from different positions (e.g. senior manager, international team members etc.).

Due to the limited number of answers, the survey is not representative globally or regionally, however it is suitable to indicate different trends and reactions of universities especially life sciences universities during the pandemic. Therefore, it can be used for outlining the scenario guidelines how to proceed under various circumstances which was the original objective of Intellectual Output 3.

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Analysis of the questionnaire responses

The questionnaire focused on 9 topics:

a. Covid-19 measures introduced in the country and in the institution,
b. the preparedness of the institution to switch to online education,
c. the challenges that institution face during online education,
d. what tools the institution kept after Covid,
e. the respondents' opinion online resources in education in general and specifically during covid,
f. their evaluation of online education at their institution,
g. the importance of some challenges in online education,
h. feedback from students and institutions on the impacts of online learning,
i. the respondents' overall satisfaction with facilities for online education at their institution and/or in their country.

It is important to note that the questions referring to COVID-19 measures or online education always referred to the first outbreak or the period after the first outbreak of COVID-19 in the given country or institution.

a. Covid-19 measures after the first outbreak

In your country, how fast were the following COVID-19 control measures initiated after the outbreak was justified?

	Immediately	Within 6 months	Within 1 year	Never introduced
Introduction of lockdown	32	13	1	0
Maintenance of social distance	38	6	1	1
Suspension of gatherings	33	12	1	0
Restriction of movements	30	12	2	2
Introduction of hand washing facilities in areas that they were not available before	33	10	0	3
Suspension of physical classes	32	14	0	0
Shifting from physical classes to online classes	30	13	3	0
Suspension of learning for specific period of time	17	9	1	19
Wearing of face masks	31	15	0	0
Introduction of curfew	23	9	4	10

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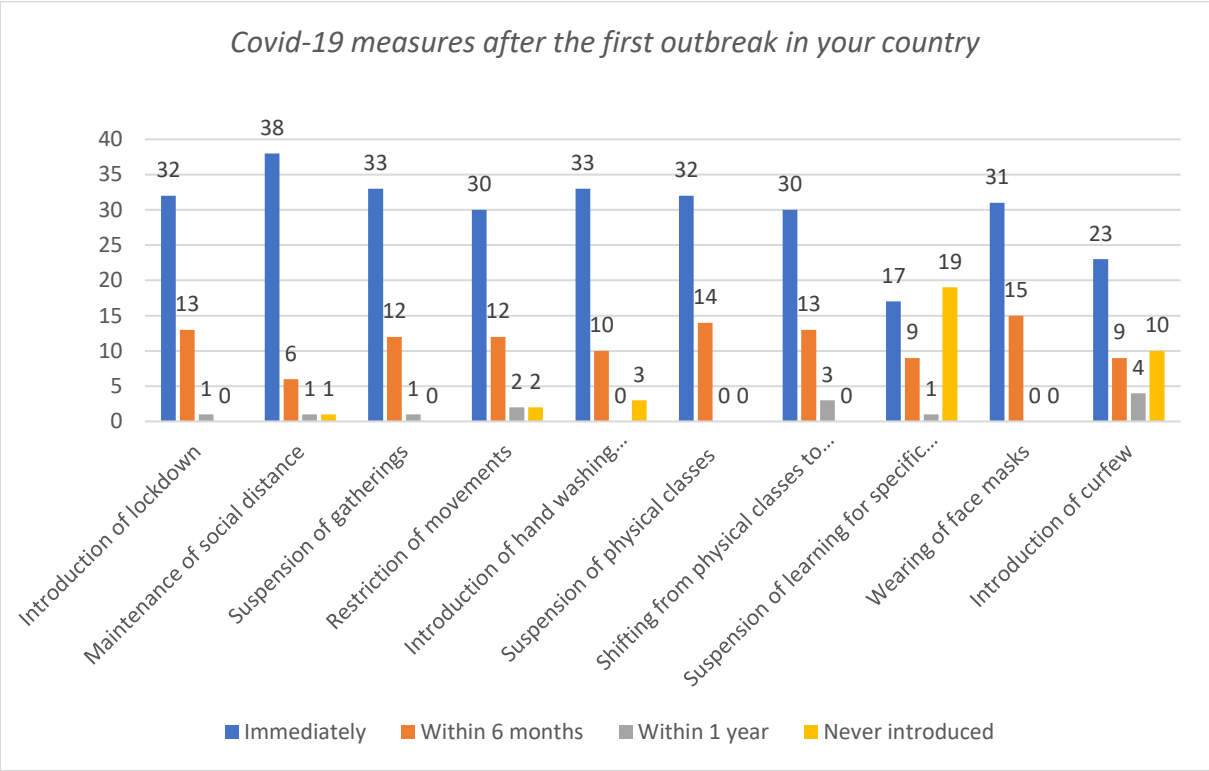
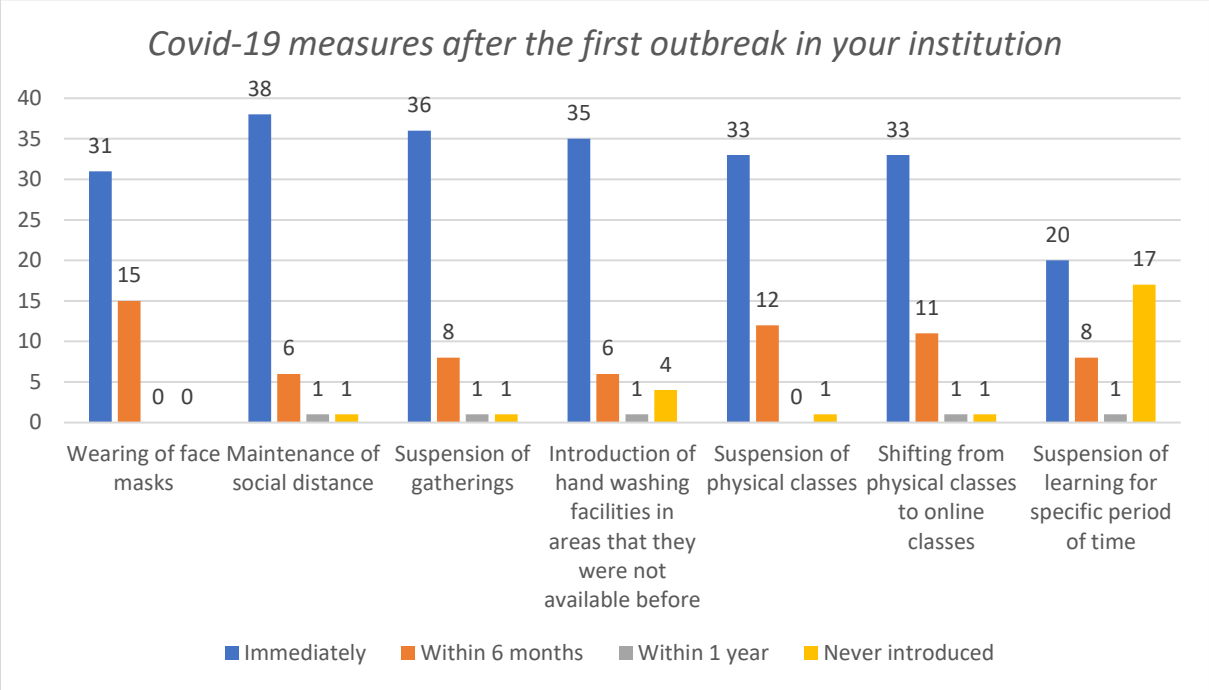


In your institution, how fast were the following control measures introduced after the outbreak of COVID-19 in your country?

	Immediately	Within 6 months	Within 1 year	Never introduced
Wearing of face masks	31	15	0	0
Maintenance of social distance	38	6	1	1
Suspension of gatherings	36	8	1	1
Introduction of hand washing facilities in areas that they were not available before	35	6	1	4
Suspension of physical classes	33	12	0	1
Shifting from physical classes to online classes	33	11	1	1
Suspension of learning for specific period of time	20	8	1	17



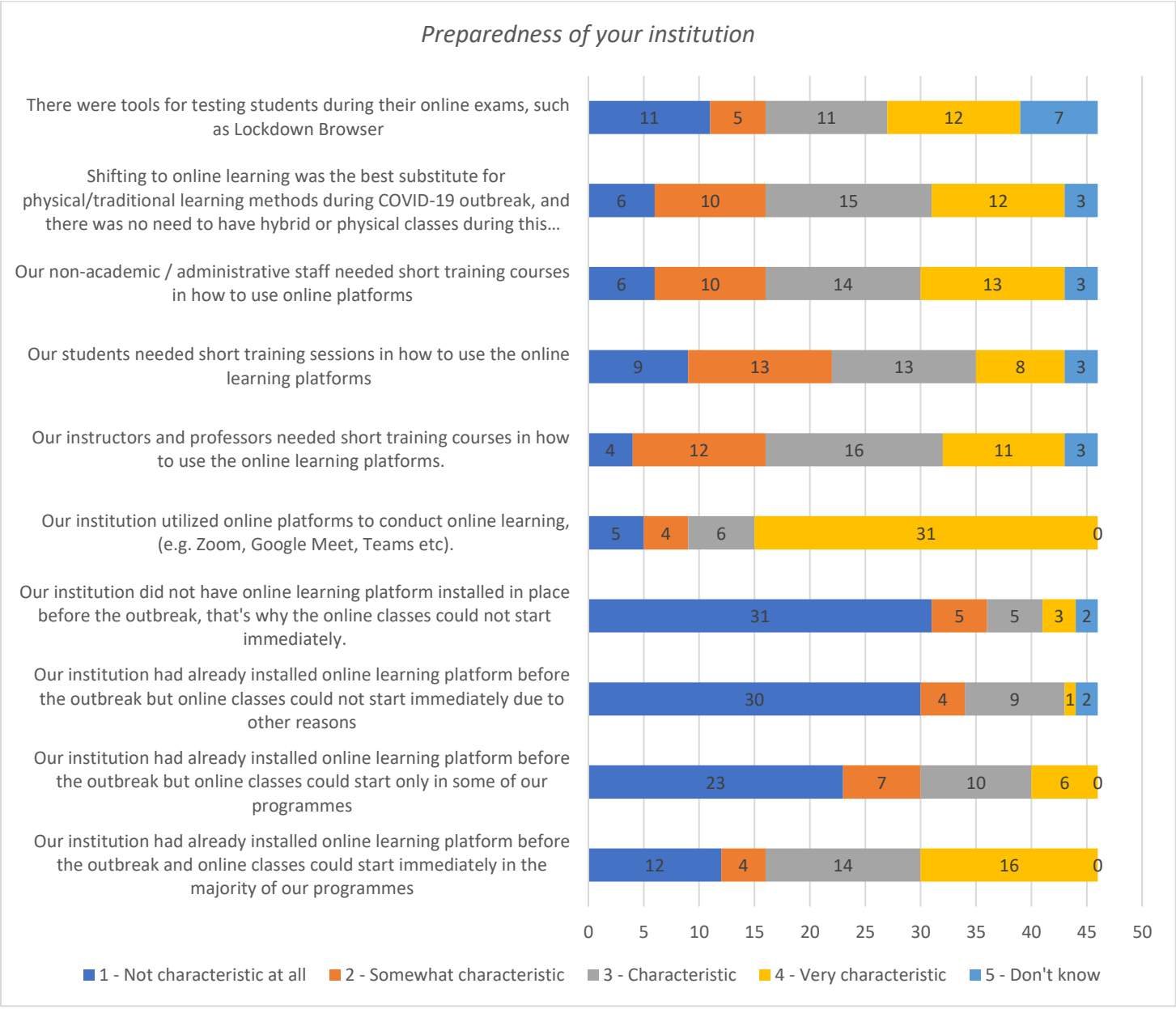
Transition to online education in the first period of Covid-19 pandemic took place within 1 month in case of 26 institutions. 16 institutions transited within 2-5 months, 2 institutions within 6-8 months and it took more than 8 months for 2 institutions. In general, European, American and some Asian countries reacted faster compared to African and some Eastern (Middle and Far East) countries. based on the questions above, it can be stated that the vast majority of countries initiated the listed Covid-measures immediately or within 6 months of the first outbreak and these measures were also taken within the higher education institutions of these countries. The suspension of learning for specific period of time was the only measure that was never introduced in approximately half of the countries and institutions. However, there is no regional or geographical trend in using this measure.

b. Preparedness

During the first period of online education in your institution after the outbreak of Covid-19 in your country, how much were the following situations characteristic/typical?

	1 - Not characteristic at all	2 - Somewhat characteristic	3 - Characteristic	4 - Very characteristic	5 - Don't know
Our institution had already installed online learning platform before the outbreak and online classes could start immediately in the majority of our programmes	12	4	14	16	0
Our institution had already installed online learning platform before the outbreak but online classes	23	7	10	6	0

could start only in some of our programmes					
Our institution had already installed online learning platform before the outbreak but online classes could not start immediately due to other reasons	30	4	9	1	2
Our institution did not have online learning platform installed in place before the outbreak, that's why the online classes could not start immediately.	31	5	5	3	2
Our institution utilized online platforms to conduct online learning, (e.g. Zoom, Google Meet, Teams etc).	5	4	6	31	0
Our instructors and professors needed short training courses in how to use the online learning platforms.	4	12	16	11	3
Our students needed short training sessions in how to use the online learning platforms	9	13	13	8	3
Our non-academic / administrative staff needed short training courses in how to use online platforms	6	10	14	13	3
Shifting to online learning was the best substitute for physical/traditional learning methods during COVID-19 outbreak, and there was no need to have hybrid or physical classes during this period	6	10	15	12	3
There were tools for testing students during their online exams, such as Lockdown Browser	11	5	11	12	7

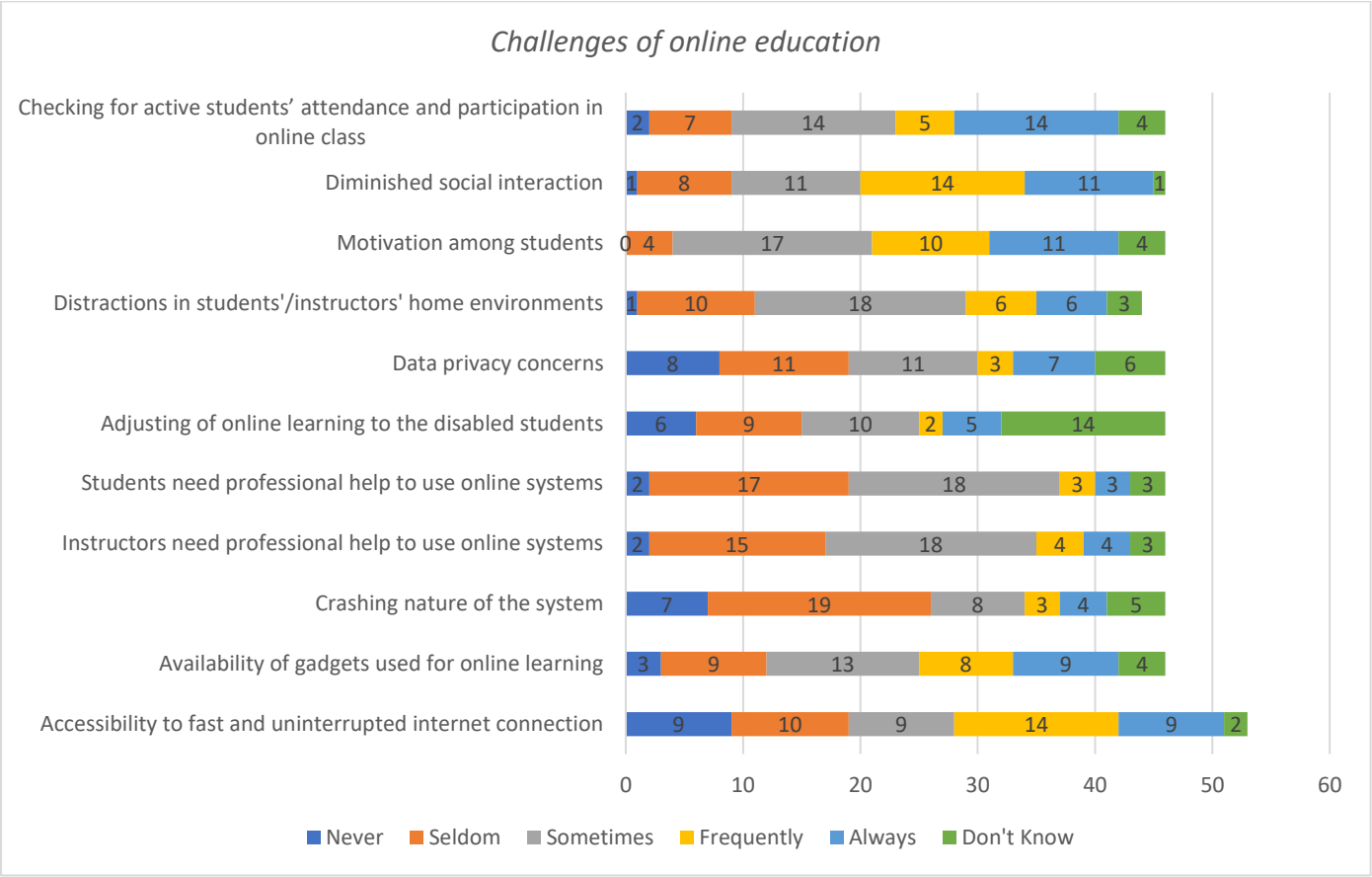


Two third of the institutions polled had already had and installed an online learning platform which made it possible for them to start online education almost immediately after the first outbreak of Covid-19. There is no clear geographical division in this preparation, it seems that investing in the development of online education platform before the pandemic was the institutions' individual choice. Online testing devices were installed later, almost a quarter of the organization did not have one during the first outbreak. On the other hand, the installation of a platform does not automatically go together with people who can use the system appropriately. According to the answers, short training sessions on how to use the platforms were necessary for instructors/professors, students and non-academic staff in 74-84% of the institutions. Therefore, the respondents were not unanimous in the question whether shifting to online learning was the best substitute for physical/traditional learning methods, only 59% of them considered it characteristic or very characteristic of their institution. This finding underlines the importance of preparedness for unexpected circumstances that involves the appropriate training of people as well.

c. The challenges that institution faced during online education

How often did your institution face the following challenges during online education, please consider the first period after the introduction of online education?

	Never	Seldom	Sometimes	Frequently	Always	Don't Know
Accessibility to fast and uninterrupted internet connection	9	10	9	14	9	2
Availability of gadgets used for online learning	3	9	13	8	9	4
Crashing nature of the system	7	19	8	3	4	5
Instructors need professional help to use online systems	2	15	18	4	4	3
Students need professional help to use online systems	2	17	18	3	3	3
Adjusting of online learning to the disabled students	6	9	10	2	5	14
Data privacy concerns	8	11	11	3	7	6
Distractions in students'/instructors' home environments	1	10	18	6	6	3
Motivation among students	0	4	17	10	11	4
Diminished social interaction	1	8	11	14	11	1
Checking for active students' attendance and participation in online class	2	7	14	5	14	4

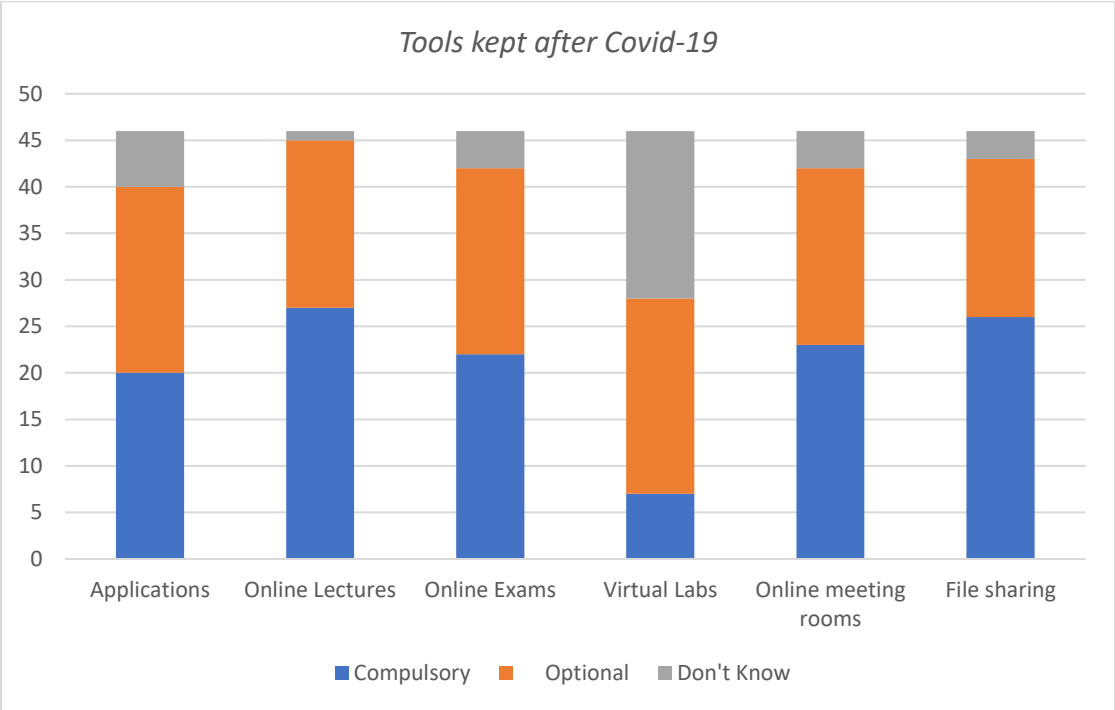


The major organizational challenge that 50% of the institutions faced was fast and uninterrupted internet connection, it meant a greater problem than having occasional system crashes or having the necessary devices. Similarly to the previous set of questions, it turned out that people (both academic staff and students) sometimes (approx.40%) needed professional help to use online systems. From organizational aspect, it seems that data privacy concerns and distracting home environments of students and instructors are minor problems that only sometimes or even less often occur. It is outstanding that international relations staff members had no knowledge about the inclusivity aspect of online learning: 11 persons (24%) who answered "Don't know" to the question about adjusting of online learning to the disabled students were members of the international teams. Motivation of students, diminished social interaction and checking students' attendance in online classes caused more serious problems that were detected by international and management teams well in greater numbers.

d. What tools the institution kept after Covid

What are the tools for online education that your institution kept after the first period of Covid-19 was over?

	Compulsory	Optional	Don't Know
Applications	20	20	6
Online Lectures	27	18	1
Online Exams	22	20	4
Virtual Labs	7	21	18
Online meeting rooms	23	19	4
File sharing	26	17	3



Replies to the question about what tools for online education were kept by the institutions were as expected. The institutions kept most of the tools either compulsorily or optionally, without major discrepancies. There is only one exception: almost 40% of the respondents lacked knowledge about the usage of virtual labs in their institutions. Otherwise, only 7 institutions have them as a compulsory tool, which can be in connection with the relatively high cost of it.

Several other tools were also mentioned by respondents that they still use:

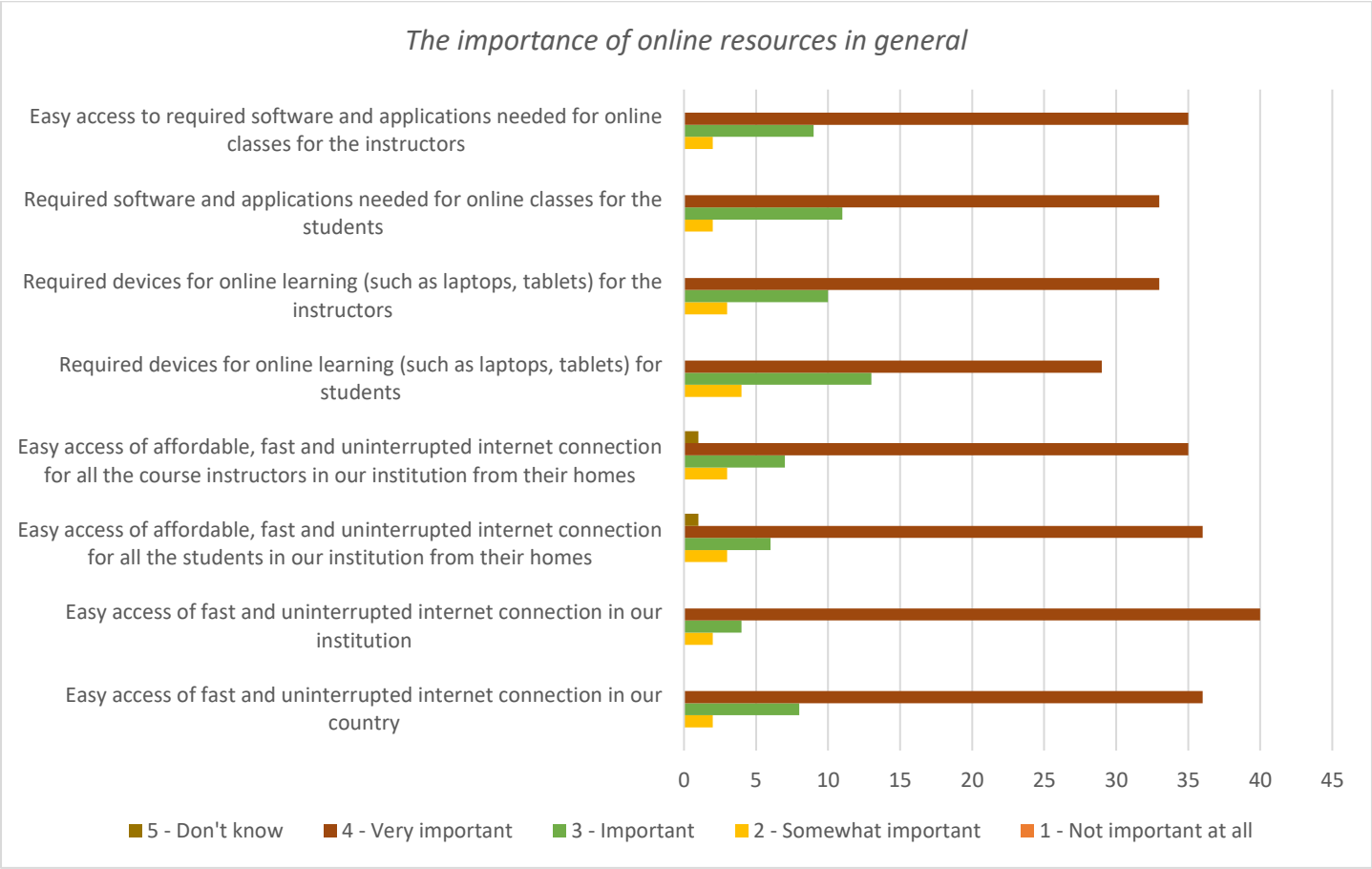
online student competitions; online conferences, Online Meeting rooms, Grading and Assignments (Compulsory), Google Classrooms for all disciplines, online assignments, Moodle platforms, Hybrid method applied, fees payment, Applications were kept after the lockdown for better management, ZOOM, Virtual Learning Environment and not Virtual Labs in case of RTC, Home take assignment, blended lectures and exams, Microsoft Office365, lecturers could benefit from the support of the university's television in recording lectures.

e. The respondents' opinion on online resources in education in general and specifically during covid

In your opinion, how important are the following online resources in education in your institution in general (not specifically during the pandemic)?

	1 - Not important at all	2 - Somewhat important	3 - Important	4 - Very important	5 - Don't know
Easy access of fast and uninterrupted internet connection in our country	0	2	8	36	0
Easy access of fast and uninterrupted internet connection in our institution	0	2	4	40	0

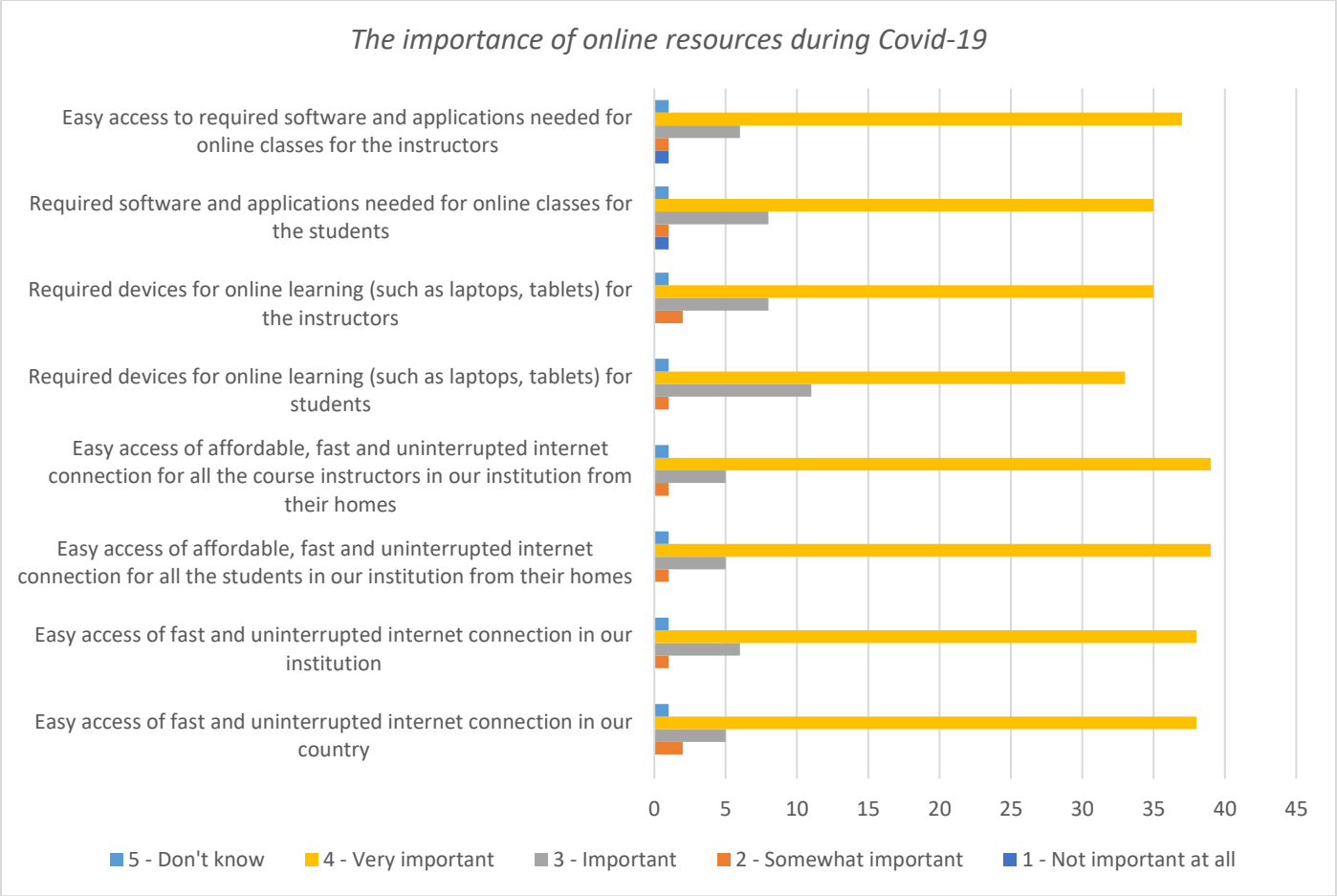
Easy access of affordable, fast and uninterrupted internet connection for all the students in our institution from their homes	0	3	6	36	1
Easy access of affordable, fast and uninterrupted internet connection for all the course instructors in our institution from their homes	0	3	7	35	1
Required devices for online learning (such as laptops, tablets) for students	0	4	13	29	0
Required devices for online learning (such as laptops, tablets) for the instructors	0	3	10	33	0
Required software and applications needed for online classes for the students	0	2	11	33	0
Easy access to required software and applications needed for online classes for the instructors	0	2	9	35	0



In your opinion, how important were the following online resources in education in your institution during the first period of online education in your institution after the outbreak of Covid-19 in your country?

	1 - Not important at all	2 - Somewhat important	3 - Important	4 - Very important	5 - Don't know
Easy access of fast and uninterrupted internet connection in our country	0	2	5	38	1
Easy access of fast and uninterrupted internet connection in our institution	0	1	6	38	1
Easy access of affordable, fast and uninterrupted internet connection for all the students in our institution from their homes	0	1	5	39	1
Easy access of affordable, fast and uninterrupted internet connection for all the course instructors in our institution from their homes	0	1	5	39	1
Required devices for online learning (such as laptops, tablets) for students	0	1	11	33	1

Required devices for online learning (such as laptops, tablets) for the instructors	0	2	8	35	1
Required software and applications needed for online classes for the students	1	1	8	35	1
Easy access to required software and applications needed for online classes for the instructors	1	1	6	37	1

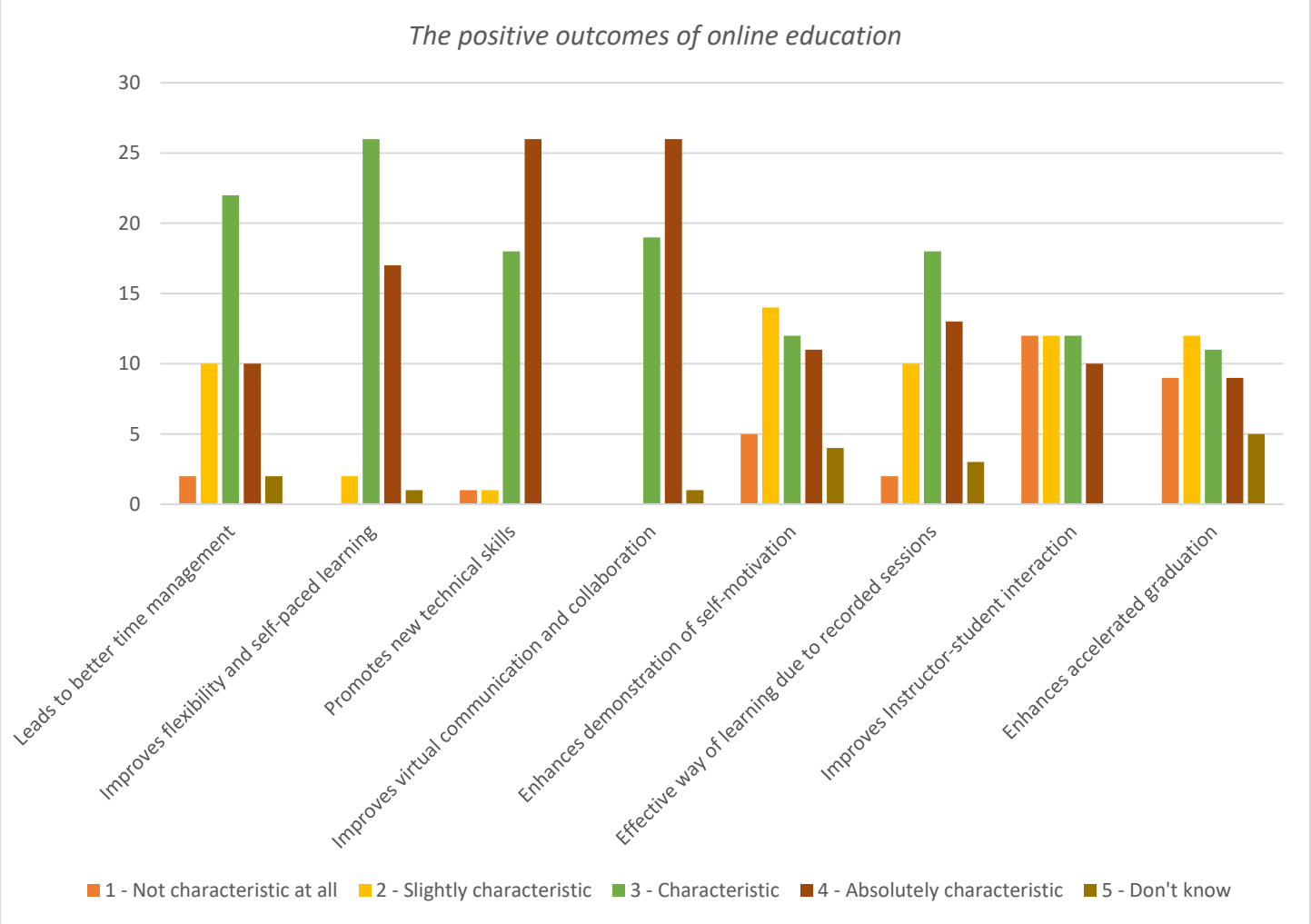


Comparing the importance of online resources in education in general and specifically after the outbreak of Covid-19 do not show major differences. The vast majority evaluated all the listed resources as very important (easy access of fast and uninterrupted internet connection in the country and the institution, affordable and fast internet for all students and academic staff, required devices, softwares and applications for students and staff). In this respect, there were no difference in replies according to position or location.

f. Evaluation of online education at their institution

Evaluation of online education at your institution: What are the positive outcomes of online education? Please rank from the following list based on your personal perception.

	1 - Not characteristic at all	2 - Slightly characteristic	3 - Characteristic	4 - Absolutely characteristic	5 - Don't know
Leads to better time management	2	10	22	10	2
Improves flexibility and self-paced learning	0	2	26	17	1
Promotes new technical skills	1	1	18	26	0
Improves virtual communication and collaboration	0	0	19	26	1
Enhances demonstration of self-motivation	5	14	12	11	4
Effective way of learning due to recorded sessions	2	10	18	13	3
Improves Instructor-student interaction	12	12	12	10	0
Enhances accelerated graduation	9	12	11	9	5



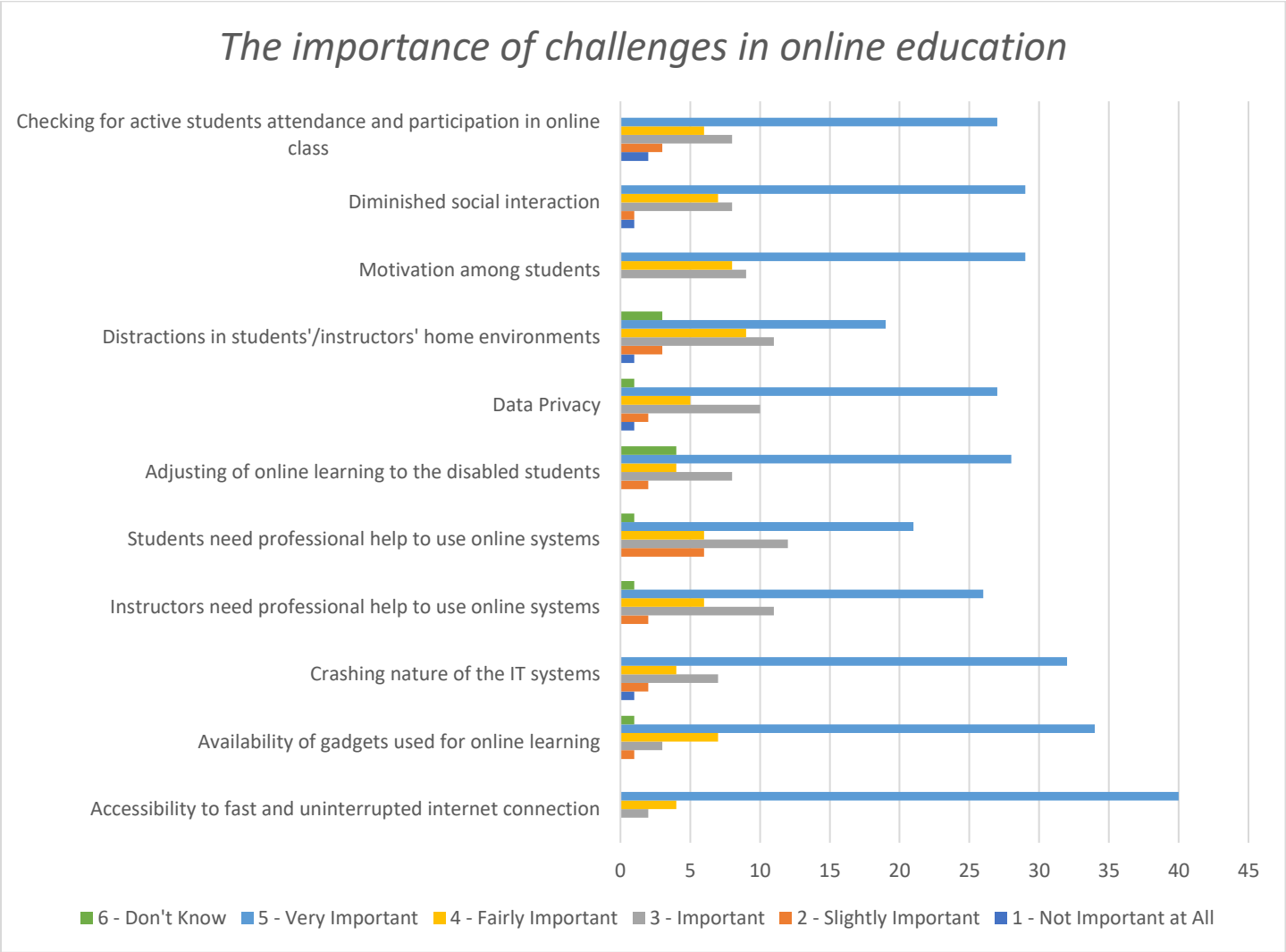
The three positive outcomes of online education urged by Covid-19 were unquestionably that it improves flexibility and self-paced learning, promotes new technical skills and improves virtual communication and collaboration. Moderately but still positive outcomes are the better time management, demonstration of self-motivation, the

recorded sessions as an effective way of language learning. At the same time, it seems that online education does not improve Instructor-student interactions and does not enhance accelerated graduation significantly, as at least half of the replies reflect it.

g. The importance of some challenges in online education

How important do you think the following challenges in online education are? Please consider these challenges as general, and not for a specific period.

	1 - Not Important at All	2 - Slightly Important	3 - Important	4 - Fairly Important	5 - Very Important	6 - Don't Know
Accessibility to fast and uninterrupted internet connection	0	0	2	4	40	0
Availability of gadgets used for online learning	0	1	3	7	34	1
Crashing nature of the IT systems	1	2	7	4	32	0
Instructors need professional help to use online systems	0	2	11	6	26	1
Students need professional help to use online systems	0	6	12	6	21	1
Adjusting of online learning to the disabled students	0	2	8	4	28	4
Data Privacy	1	2	10	5	27	1
Distractions in students'/instructors' home environments	1	3	11	9	19	3
Motivation among students	0	0	9	8	29	0
Diminished social interaction	1	1	8	7	29	0
Checking for active students attendance and participation in online class	2	3	8	6	27	0



Based on the given answers, the most important challenges of online education are the accessibility to fast and uninterrupted internet connection, the availability of gadgets used for online learning and IT systems crashes. All the other listed challenges received fewer “Very important” ratings, however, all of them were considered important to some extent by the vast majority.

Comparing these answers with those of Table C, we can state that the respondent evaluated the importance of challenges higher in general, even if their experience during the first outbreak was different from it. This difference refers to the importance of preparedness and the continuous evaluation of the performance of the systems. The example of inclusiveness shows how important it is: it received very high scores (87% rated it important or higher) in general although earlier 24% of respondents indicated that they did not even know about it in their institutions.

h. Feedback from students and institutions on the impacts of online learning

Did your institution ask the students for feedback?

In online questionnaires, with names: 4

In anonymous online questionnaires: 27

In meetings with student representatives: 11

Via webinars: 4

No: 5

Don't Know: 8

Did your country (your country's ministries, national agencies, rectors' conferences, student associations) ask the students for feedback on the impacts of online learning?

In online questionnaires, with names: 2

In anonymous online questionnaires: 16

In meetings with student representatives: 8

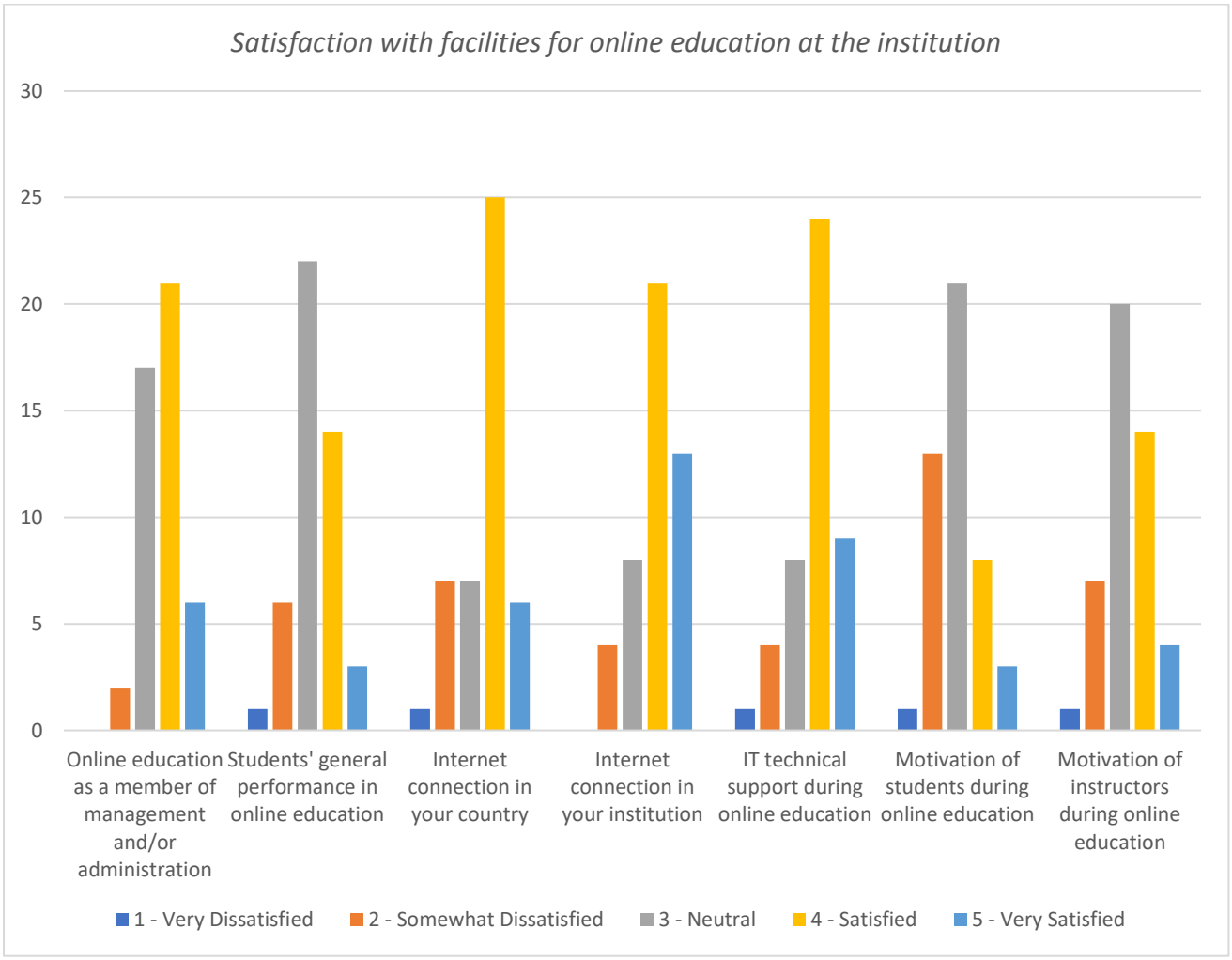
Via webinars: 2

No: 6

Don't Know: 19

i. *The respondents' overall satisfaction with facilities for online education at their institution and/or in their country*

	1 - Very Dissatisfied	2 - Somewhat Dissatisfied	3 - Neutral	4 - Satisfied	5 - Very Satisfied
Online education as a member of management and/or administration	0	2	17	21	6
Students' general performance in online education	1	6	22	14	3
Internet connection in your country	1	7	7	25	6
Internet connection in your institution	0	4	8	21	13
IT technical support during online education	1	4	8	24	9
Motivation of students during online education	1	13	21	8	3
Motivation of instructors during online education	1	7	20	14	4



Surprisingly, the highest overall satisfaction scores went to the internet connection in the country and institution and the IT technical support during online education. More than two thirds of the respondents were satisfied or very satisfied with them. Thus technically, the IT systems were installed and developed in general in higher education. Since there were no answers from the academic staff, almost 50% answered neutrally for the questions about online education, students' performance and motivation of staff and students. The remaining half tended to be more satisfied with them though, except for students' motivation with which 28% of the respondents was somewhat dissatisfied (24% international staff).

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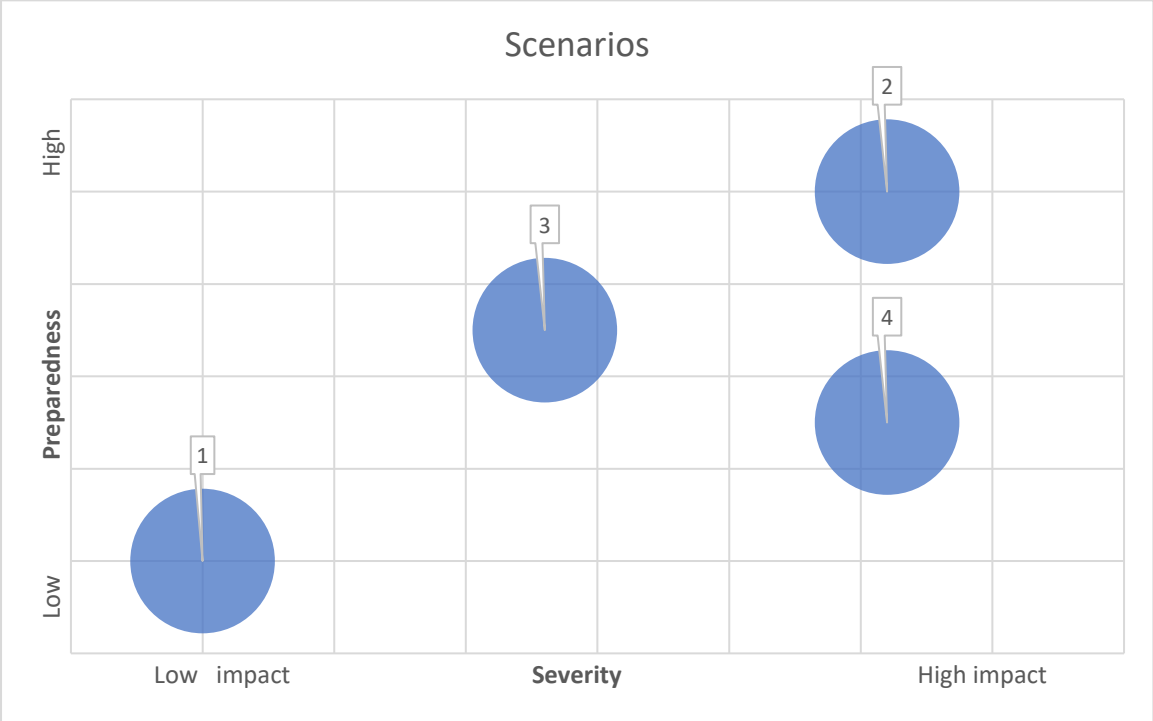
Scenario Guidelines

The two factors along which we outline the possible scenarios are the severity of the event and preparedness level of the institutions. Severity refers to how deep the impact of a given event is, assuming that the same type of event can have higher impact if it takes longer or reoccurs like a rollercoaster due to the longer period exposure. Preparedness refers to all the investments, actions, planning, training of people that have been carried out in higher education either at country level or by the higher educational institutions in order that the impact of an unexpected adverse situation should be managed.



Scenario 1

A period of unexpected event with relatively low impact that affects a higher education system and institutions unprepared.

Signals and Signposts:

- The unexpected event occurs once, it doesn't re-occur in waves
- Low impact of the event refers to the severity of the caused problems, turbulence etc.
- Country-level preparations exist only in general (crisis management system)
- No specific preparation in higher education or at institutions
- Recovery after the event resembles a recovery after a period of recession in the economy

Higher education systems and institutions:

There will be different reactions from higher education systems to the event depending on how the countries manage the situation and what importance they contribute to their higher education. In other words, the reactions will vary greatly regionally and countries with more attention to their higher education and/or with more resources will recover faster and with less loss. Therefore, the difference between higher education systems will increase among the regions/countries concerned, better funded and managed systems will rule the higher education market more than before. This trend will be true at institutional level as well: top institutions will probably go through such a period without major changes while smaller ones will struggle to survive.

Education:

Although the resilience of educational management will be key in all scenarios, in case of Scenario 1 it is not as significant as the overall position of the institutions. In response to short-term challenges, there can be some innovations, new tools (like online meetings, home office etc. during and after Covid) introduced, however, the study programmes and the overall management systems remain unchanged.

Scenario 2

Opposite of Scenario 1 when an unexpected event with high impact affects a higher education system and institutions which are well prepared for it.

Signals and Signposts:

- The unexpected event occurs in waves (roller-coaster or with peaks) for a longer period of time
- High impact refers to the devastating character of the event, in this case it can called a disaster or crisis
- The level of preparedness is adequate to manage the situation in the country and in higher education
- Recovery starts slowly since managing the situation requires a lot of resources and effort
- Significant investments will be needed in all sectors including higher education, which can lead to stronger co-operations and fundamental changes in higher education, or on the contrary, to the emergence of isolationist policies

Higher education systems and institutions:

Despite the serious devastation that the event causes, the operating crisis management systems can overcome it. Being well prepared for unexpected events can mean that countries and institutions have already realized what activities can be more efficient when implemented jointly. With the support of efficient existing collaborations between countries and institutions, some countries or regions can strengthen their positions in economy and in higher education as well. Recovery will take time, several unsuccessful attempts can be expected in the quest for the best solutions and new mechanisms. When act together in a well-coordinated way, these countries can take advantage of the recovery. However, some countries may decide on investing less in cooperation if they cannot feel the positive results of joint actions, thus they enforce isolationist policies to protect their economies and education.

Higher education systems will need extra fundings in order to be able to implement fundamental changes in their education and research required by rapidly changing corporate demand and social needs. Cooperating higher education systems and institutions can work more efficiently than isolationists.

Education:

The resilience of higher educational management is of the highest importance in this scenario. Since the unexpected event influences every sector deeply, senior leaders should identify the new trends, challenges, threats and opportunities in time and act promptly. They should represent the interests of their institutions and their country's

higher education, act jointly and coordinated. If limited resources generate a fiercer competition, higher education systems and institutions may follow isolationist policies and they break down spending on collaborations.

Scenario 3

An unexpected event with middle range impact affects a higher education system and institutions which are prepared for it to a certain extent.

Signals and Signposts:

- The unexpected event lasts for a longer period or occurs in waves (roller-coaster or with peaks) but for a shorter period of time than in Scenario 2
- The impact of the event is considerable but not as high as in scenario 2
- The level of preparedness includes general crisis management in the country and some specific preparatory measures in higher education (and in other sectors as well)
- Recovery starts relatively slowly but preparatory measures can help significantly in it
- Significant investments will be needed in all sectors including higher education, which can lead to stronger regional co-operations and fundamental changes in higher education, or on the contrary, to the emergence of isolationist policies

Higher education systems and institutions:

Although the situation is quite similar to Scenario 2, the impact is of the event runs less deep. The operating crisis management systems can overcome most of the urgent cases and the specific preparatory measures (e.g. maintaining reliable infrastructure for online education in every school) can decrease recovery time and costs. With the support of efficient existing collaborations between countries and institutions, some countries or regions can strengthen their positions in economy and in higher education. These cooperation networks can participate in prevention and preparation measures before the event, which can also enhance their significance during the recovery period. The emergence of isolationist policies is less probable than in Scenario 2 because the impact is not as devastating in this case. Countries and education systems may have more time and resources for joint actions and they can experience the positive outcomes of them faster.

Higher education systems will need extra fundings in order that they keep on implementing fundamental changes in their education and research required by rapidly changing corporate demand and social needs. Cooperating higher education systems and institutions can work more efficiently than isolationists.

Education:

The resilience of higher educational management and operational staff is key in this scenario. Senior leaders should identify the new trends, challenges, threats and opportunities in time and act promptly and also enhance joint actions with other institutions and organizations. They should also represent the interests of their institutions and their country's higher education, act jointly and coordinated. At the same time, they should enhance the improvement of university staff competences and skills (both academic and non-academic) for the sake of maximum resilience within the institution.

If limited resources generate a fiercer competition, higher education systems and institutions may follow isolationist policies and they break down spending on collaborations.

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Scenario 4

An extreme situation when the unexpected event has quite high impact on a higher education system and institutions which are relatively unprepared. Worst case scenario.

Signals and Signposts:

- The unexpected event occurs in waves (roller-coaster or with peaks) for a longer period
- High impact is high, sometimes devastating, it can be called a disaster or crisis
- Country-level preparations exist in general (crisis management system)
- Specific preparation in higher education or at institutions is sporadic, not comprehensive
- Recovery is the slowest in this scenario, managing the situation requires a lot of resources and effort
- The required recovery investments can reach enormous sums, which may result that certain resource-intensive sectors such as higher education have to cope with prolonged underfinancing.
- Emergence of isolationist policies is probable.

Higher education systems and institutions:

Since it is a worst-case scenario, only partial and/or very slow recovery can be expected. Although the operating crisis management systems can overcome most of the urgent cases in the country, it will take long to recover the whole economy, especially in resource-intensive sectors.

Education:

Due to limited resources, competition and asserting interests in higher education will intensify. Institutions are likely to focus on lobbying, follow isolationist policies and they may break down their spendings on collaborations. Only the strongest institution can survive. In this scenario, senior leaders of higher educational institutions should focus on generating as much resources as they can, political lobbying is probable.

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Conclusions

A questionnaire sent out to partner universities was aimed to collect some information about the key aspects which universities should focus on when disasters/unexpected events similar to Covid-19 pandemic occur. When analysing the scenarios indicating possible reactions of universities to such events, the following conclusions can be drawn.

Our previous assumption was that the degree and quality of **preparedness** would be a key factor in university reactions to unexpected circumstances, that is why it was also chosen as one of the scenario variables. Preparedness means every action taken before the event that can help higher education institutions cope with the situation. Therefore, it involves planning, continuous monitoring and updating, maintenance, developing and investments in infrastructure, human resources, training. The answers given to the questionnaire proved this assumption.

First of all, how higher education institutions tried to cope with an unprecedented situation that Covid-19 meant was part of how their countries tried to manage the pandemic. The introduction of restriction measures at institutions were following the country-level measures. Two major paths at the beginning of the pandemic were suspending/restricting higher education for a specific period of time or not doing so, but both were accompanied by transitioning to online education. The online learning platforms had already been installed by most of the institutions so the transition could take place almost immediately after the first outbreak.

However, building out the infrastructure is not enough in itself, the institutions had to go through an **adaption process** during which they tried and tested several methods and faced several challenges. This process involves several aspects, coping techniques and methods.

Secondly, the suspension of learning for specific period of time was the only measure that was never introduced in approximately half of the examined countries and institutions, but other measures were introduced. The majority of institutions had already had and installed an online learning platform which made it possible for them to start online education almost immediately. The adaption to the specific circumstances varied from institution to institution depending on the infrastructure, level of IT skills, availability of devices. It was surprising, however, that international relations staff members had no knowledge about the inclusivity aspect of online learning.

Although the majority of respondents agreed on that **shifting to online learning** was a good substitute for physical/traditional learning methods, there was still a considerable 40% disagreeing with it. However, the institutions kept most of the tools either compulsorily or optionally, without major discrepancies. The most important challenges of online education are the accessibility to fast and uninterrupted internet connection, the availability of gadgets used for online learning and IT systems crashes. The **positive outcomes** of online education were the improvement in flexibility, self-paced learning, virtual communication and collaboration, the adaption of new technical skills, better time management and demonstration of students' self-motivation.

Thirdly, the findings of the questionnaire are in line with what the consulted reference reports also highlighted in connection with the impact of Covid-19 pandemic. The EAIE report of 2020 reflected the situation in Europe after the first year of the pandemic. According to it, 58% of the institutions in Europe already had a response plan to the pandemic and they were implementing it. The institutions quickly reacted to the safety measures everywhere and they felt the immediate impact of the pandemic in the decreasing mobility numbers and cancelled events. Regarding mid-term and long-term effects, the institutions indicated their need for better or faster coordination, guidance, or information from national, local or regional authorities. The report also showed that "surveying or a systematic "mapping" of situations,… good practices modelled by other HEIs, crisis response, longer term planning in the face of uncertainty, partnership management, technology solutions, and more effective communications processes with relevant authorities are among the key focal points for the future" (p.21, Rumbley 2020).

The global survey report published by the International Association of Universities in 2022 presents a detailed description of how the pandemic crisis affected higher education at institutional, national, regional levels worldwide. Transversal collaboration within the institutions and regionally among institutions strengthened due to crisis management. In institutional crisis management, communication was reported very effective referring to that the institution had the appropriate channels and they could use them efficiently. Academic research partnerships, private sector partnerships were strengthened but there was no significant change in membership in associations. The pandemic led to reinforced collaboration among HEIs and national authorities. "Strengthened collaboration with authorities is a positive indicator of the important role HEIs play in the context of the pandemic, not only for research on health-related matters but also to address other societal crises that come with the current pandemic" (p.69, IAU 2022).

It was somewhat surprising that only the EAIE report dealt with discrimination issues but it was not examined by the IAU. In our questionnaire, 24% of the responding international relations staff members showed no knowledge about the inclusivity aspect of online learning and another 32% said that online learning was seldom or never adjusted to the disabled students' needs.

Recommendations

Based on the above conclusions, the following recommendations have been collected (**ERIN**):

1. **E**ducate
   - your staff
   - your students
   - university management

   of what and how to change in order to be prepared for unexpected events, including a strong leadership team and changing management approach. Focus on resilient and sustainable aspects.

2. **R**isk and crisis management, recovery plan
   - make sure that your institution has a risk and crisis management plan with a recovery plan as part of it, with data collection and systematic mapping of situations
   - regularly revise the institutional risk/crisis management plan
   - follow the changes in the national, regional, international crisis management strategies and give feedback to relevant authorities regularly
3. **I**nvest in
   - academic digitization and sustainable infrastructure
   - diversity and inclusion projects
   - grassroot initiatives (e.g. SZIA Agroecological Garden of MATE, presented separately)
   - relevant collaborations with authorities, regional and international organizations

   in order to build and strengthen your institution's resiliency and viability.

4. **N**etworks and partnerships
   - use your HEI's third mission potential
   - keep the strengthened collaboration networks of your HEI alive with authorities, research networks, private sector

   so your institution has the most appropriate channels and means in case of unexpected situations.

References

1. Deloitte Center for Higher Education Excellence (2020). *Higher education remade by COVID-19, Scenarios for resilient leaders, 3-5 years*. https://www2.deloitte.com/us/en/pages/public-sector/articles/covid-19-higher-education-scenario-planning.html
2. Jensen, Trine, Marinoni Giorgio, van't Land, Hilligje (2022). *Higher Education One Year into the COVID-19 Pandemic. Second IAU Global Survey Report.* International Association of Universities. https://www.iau-aiu.net/COVID-19-Higher-Education-challenges-and-responses
3. Rumbley, Laura E. (2020): *Coping with COVID-19: International higher education in Europe.* The European Association for International Education (EAIE). https://www.eaie.org/our-resources/library/publication/Research-and-trends/Coping-with-COVID-19--International-higher-education-in-Europe.html

Erasmus+ Programme: KA226 Partnerships for Digital Education Readiness

Project title: COVID-19 pandemic as an "opportunity window" for the transition towards new and more inclusive internationalisation through virtual mobility

Intellectual Output 4: Learning materials facilitating inclusion into online education

Coordinator: CZU supported by partners

Czech University of Life Sciences Prague (CZU)
University of Natural Resources and Life Sciences Vienna (BOKU)
Warsaw University of Life Sciences (SGGW)
Slovak University of Agriculture in Nitra (SPU)
Hungarian University of Agriculture and Life Sciences (MATE)
University of Zagreb (UNIZG)
University of Sarajevo (UNSA)
Technical University of Moldova (TUM)
University of Ljubljana (UL)

Project Nr: 2020-1-CZ01-KA226-HE-094453

Contents

Intellectual Output 4 - Learning materials facilitating inclusion into online education

Introduction

The outcomes of IO4 draw from the results of the IO1 (Virtual Mobility Tools), IO2 (International manual of examples of transferable good practices), IO3 (Scenarios of reactions in higher education) and on a separate analysis done by the Working Group in IO4.

The overall aim was to create learning materials for students and staff challenged by the unprecedented transition to the online environment and had certain difficulties adapting to the new situation. In order to attain this, the Working Group IO4 prepared a number of work tasks.

Work task IO4-1: Mapping problems encountered by students and staff when starting online education

The WG members mapped the problems encountered by students and staff when starting online education, mostly by searching for problems/barriers related to the use of new educational practices.

The first step under this task was a literature review of publications and scientific articles produced by not only the consortium universities. Each university representative in the WG analysed the literature on problems related to transitioning to online education at HEIs. The second step was an analysis of each university's primary data. Several of the consortium universities collected their own data from questionnaires or interviews with their students and staff related to the transition to online education at the beginning of the COVID-19 pandemic. Moreover, a number of nationwide surveys on these related topics were done in many of the consortium countries. The WG created a collection of relevant publications and, based on the analysis of the institutional or national research, identified and classified the main problems encountered by students and staff at each partner university and country.

Work task IO4-2: Crosschecking the problems against already existing examples of best practices and scenarios of reactions

As the online environment is a very dynamic field, the WG members crosschecked if there were available solutions already in place. They analysed the results of the IO2 focus group sessions and identified the problems that already had a solution in the form of a best practice.

Work task IO4-3: Creation of learning materials for students and staff that facilitate inclusion into online education

The Working Group decided to create two learning modules in LMS Moodle, as this platform is the only one used by all of the consortium universities. One module focuses on supporting academic staff (lecturers), and the second one on supporting students. Each module is a customisable toolkit for each of the nine consortium universities. The module for staff helps lecturers in the didactics of teaching and testing in a virtual setting. They have some theoretical base connected with the practical experiences of lecturers, which are based on the IO2 outcomes and linked with the IO2 COVIMO app. The module that focuses on students helps them to orientate in the online tools used at each university, provides tips for a more effective way of studying online (based on the IO2 outcomes) and allows them to experiment and provide feedback on the virtual mobility tools developed in the IO1 part of the project. Both modules help to ensure inclusivity in a virtual setting and provide tips for working with online platforms (such as LMS Moodle or MS Teams).

Work task IO4-4: Verifying the transferability of the learning materials (How do students and staff from different universities perceive the designed learning materials?)

The consortium partners organised focus group sessions at each university targeted at collecting feedback on the two developed Moodle modules. The gathered feedback pointed out that the virtual mobility tools, such as avatar-based learning rooms, 3D models, virtual labs, and virtual field trips, were perceived as great additions to courses by both lecturers and students, especially at the universities of the partner countries. The feedback suggested that the module for students also addresses legal aspects of online teaching and examinations. The modules were improved based on the feedback.

Links to the modules and their detailed description

The outcomes of IO4 are in the form of two e-learning modules developed in LMS Moodle.

1) **Module Learning Materials for Teaching in a Virtual Setting**

- To view the course as a guest (free access), click here: https://projekty2.czu.cz/course/view.php?id=862

- To download the export file of the Moodle course (for administrators), click here: https://czuvpraze-my.sharepoint.com/:f:/g/personal/josek_rektorat_czu_cz/Evx3yZrmyvdChL8-UuYGDH8BW2h8A7jm4GzIWA62pK-aAQ?e=8VfcIS
(The Moodle versions 3.7. to 4.1. have been tested and are working).

This Moodle course aims to support lecturers in improving their online classes or e-learning materials for online students.

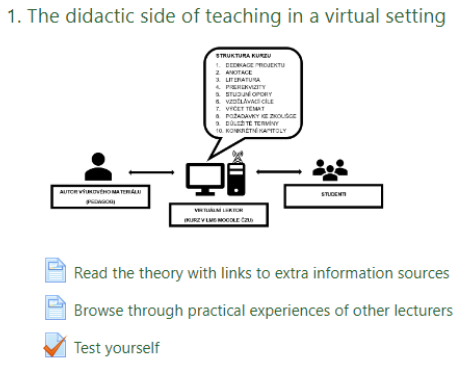
LEARNING OBJECTIVES:

- Learn the didactics of teaching in a virtual setting (get inspired by others' experiences)
- Learn the didactics of testing in a virtual setting (get inspired by others' experiences)
- Understand the aspect of inclusivity in e-learning
- Check out tips and up-to-date manuals of e-learning platforms (MS Teams and LMS Moodle)
- Get inspired by virtual mobility tools used for e-learning (AR, VR and 360° camera shots)

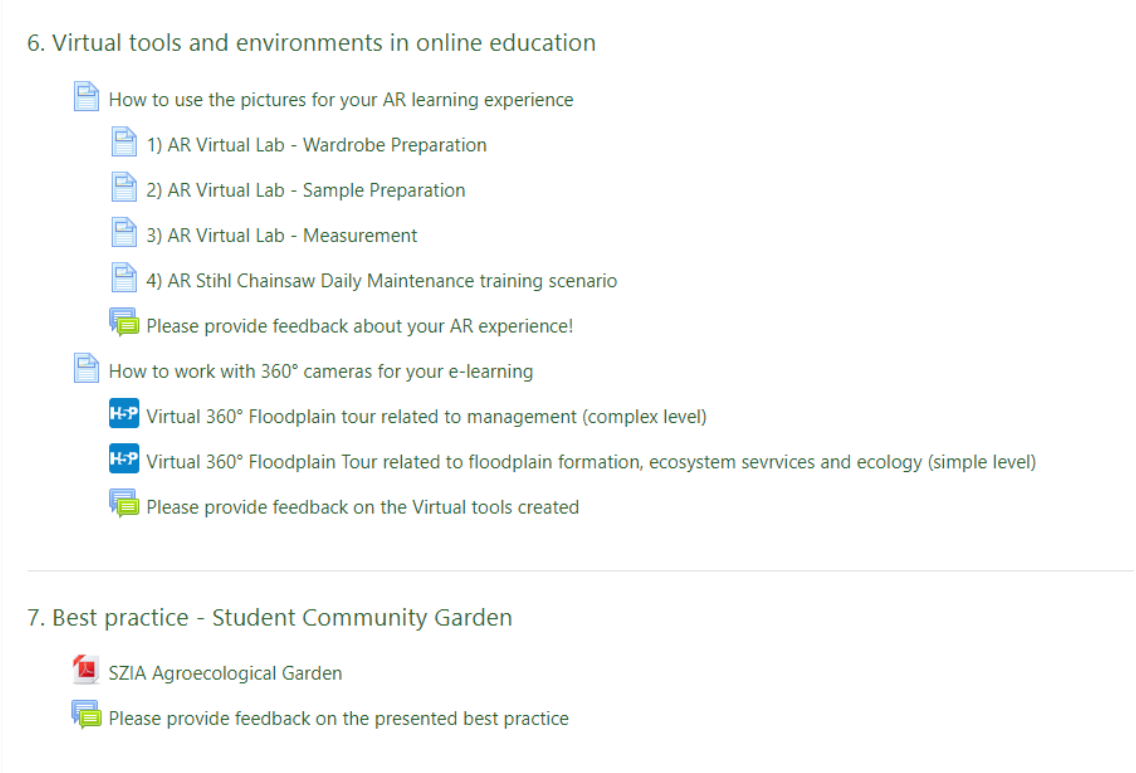
LIST OF TOPICS:

1) The didactic side of teaching in a virtual setting
2) The didactic side of testing in a virtual setting
3) Ensuring inclusivity in a virtual setting
4) Tips for working with online platforms
5) Literature resources and Manuals for working with online platforms
6) Virtual tools and environments in online education
7) Best practice - Student Community Garden

Example screenshot 1:



Example screenshot 2:



2) Learning Materials for Studying in a Virtual Setting

- To view the course as a guest (free access), click here: https://projekty2.czu.cz/course/view.php?id=922 (version customized for CZU students)
  https://projekty2.czu.cz/course/view.php?id=881 (version prepared for other universities)

- To download the export file of the Moodle course (for administrators), click here: https://czuvpraze-my.sharepoint.com/:f:/g/personal/josek_rektorat_czu_cz/Evx3yZrmyvdChL8-UuYGDH8BW2h8A7jm4GzIWA62pK-aAQ?e=8VfcIS
  (The Moodle versions 3.7. to 4.1. have been tested and are working).

This Moodle course aims to prepare students to study online and/or to prepare new students already online before they arrive to start their studies.

LEARNING OBJECTIVES:

1) Get familiar with your campus via a virtual experience.

2) Get to know the basic information sources and the necessary IT tools and platforms that you will be asked to use.

3) Get oriented in what is and is not possible to do in the online environment (legal regulations for online studies).

4) Get the best out of the available online support before or shortly after your arrival.

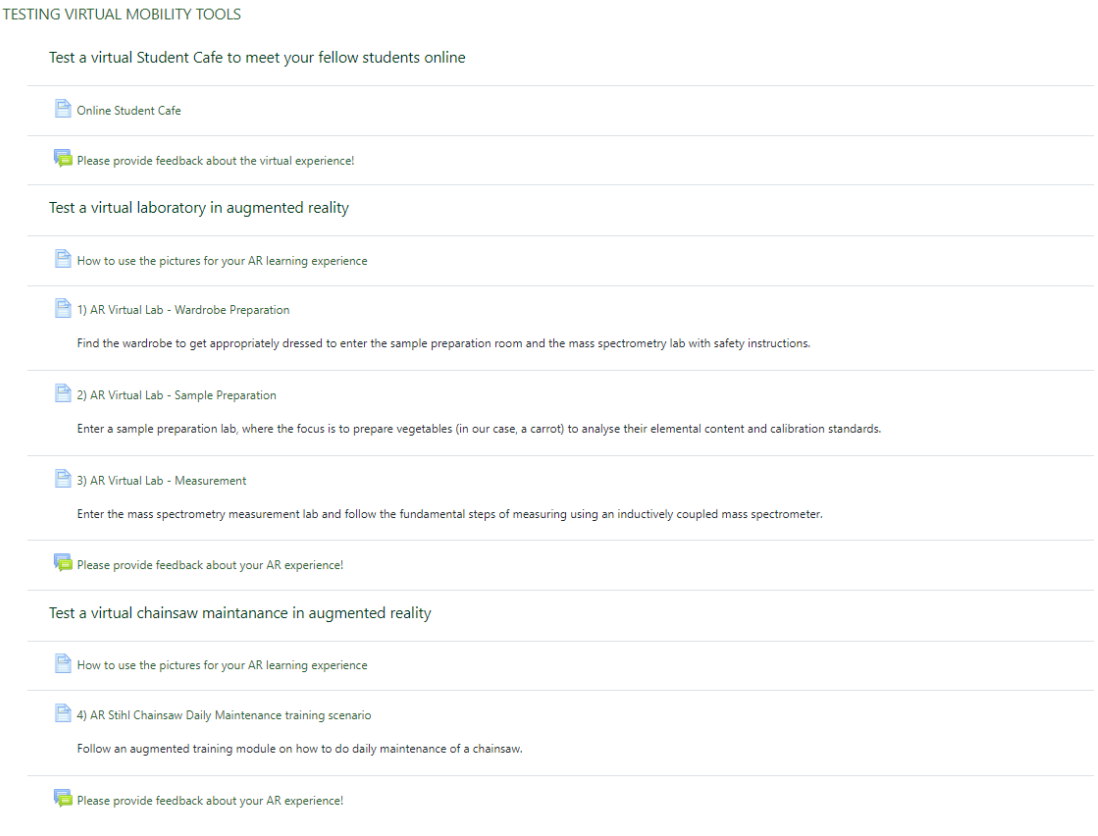
Moreover, you can find tips on how to study online more efficiently and also test several virtual mobility tools that we have developed in the COVIMO project and provide feedback.

- Read tips about studying online
- Visit the Online Student Café
- Test the Augmented Reality scenarios

LIST OF TOPICS:

1) How to study online
2) Tips and Tricks for studying online
3) Testing virtual mobility tools (VR and AR)
4) Literature resources and manuals

Example screenshot 3:



Maintain your well-being, when online studying

C O V I M O

opportunity window

Content

Co-funded by the
Erasmus+ Programme
of the European Union

Studying remotely may be disturbing in terms of schedule. One important thing to bear in mind is that you need to keep a balance.

Setting up a routine is the first step when you want to keep it.

Waking up at the same time, exercising, dressing up, listening to music; everything to put you in the mood to start the day.

First things first

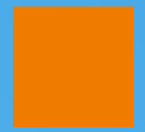
Exercising

This might sound like an old saying to you, but it works!

Keeping your body active will help oxygenate your brain and release endorphins.

It can be a 30 minutes walk, running, yoga, or dancing.
A lot of apps also offer online fitness classes at home. Basically, everything that you feel like doing.

Eating



The counselling centre of the University of Washington suggests to “select healthy snacks when you study, and prepare lunches that will not put you to sleep afterwards.”

For a more detailed routine and for specific advice, you can rely on the “5 Tips for Healthy Eating when Studying”.

1. Don’t skip meals

When you have your head in the books and time is ticking by fast, you might forget or skip a meal to keep up the momentum. Don’t do it! Your brain needs food and water to keep working. Mental fatigue can cloud your brain, especially if you are about to take an exam. Have a quick snack, such as a granola bar, apple, or low fat/carb sandwich, to keep you going.

Tips for Studying from Home. (s. d.). Counseling Center. ***https://www.washington.edu/counseling/covid-19/tips-for-studying-from-home/***

2. Keep caffeine to a minimum

Caffeine is a great pick-me-up and is proven to help concentration. But too much will leave you jittery and dehydrated. If you're a coffee addict, try to cut back to one a day.

3. Eat 'brainy' food

Proteins from lean meat, fish and eggs, fruit, nuts and whole grains are foods that help keep the brain mentally alert. Snacking on nuts and dried fruit as well as keeping Hydrated with water, will help stop your concentration from wavering. Remember, fruit like bananas, blueberries, and oranges all have natural sugars that will give you a lift when you're feeling down and out.

4. Eat smaller meals more often

Large meals tend to make us feel stuffed and bloated, and the idea of 3 meals a day is a modern cultural convention, and scientific research opinion is divided. However, our energy levels start depleting around 3 hours after we eat food. Having 5-6 small meals instead of 3 large ones will keep you balanced throughout the day.

5. Avoid sugar!

It seems obvious, but we are all guilty of eating high-fat, high-sugar snacks sometimes, such as muffins, chocolate, or pastries, when we are stressed out and have not prepared any food. High fat/sugar items take time for your stomach to digest and will leave you feeling sluggish. If you have a sweet tooth, why not make a sugary treat part of your rewards in your study planner?

Whether you are studying or about to take an exam, eating right, carrying healthy snacks and plenty of water will greatly aid your concentration levels and give you lots of energy. Remember, a poor diet will affect your sleep and your mood and will leave you struggling to focus, so start preparing your favourite healthy snacks!

5 tips for healthy eating when studying. (s. d.). Schooldays.ie. ***https://www.schooldays.ie/articles/5-tips-for-healthy-eating-when-studying***

Sleeping

It is advised to sleep at least 7 to 8 hours per night. But everybody knows that, so if you need more specific advice, the National American University of Canada has made a list of useful tips for you.

1. Stick to a Routine

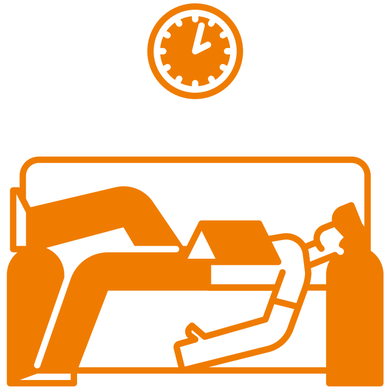
Having a regular sleep pattern is best as it will leave you feeling refreshed and energised during the day. Decide on a time to go to bed and wake up and try to stick to this schedule. Even on the weekends, sleeping in can throw off your body clock. Sticking to a regular routine will help regulate your body's natural circadian rhythm and promote a better quality of sleep. Irregular sleep patterns can have the same negative effects as a lack of sleep.

2. Go to Bed Sleepy

Try to go to bed when you feel tired. If you try to go to sleep when you are not tired, then you can end up associating your bed with feelings of frustration. If you cannot get to sleep within 15 minutes, get up and do something else to try and relax. Once you feel tired, then you can then go back to bed.

3. Keep Your Bed for Sleeping

It may seem like a good idea to study in bed. After all, it is comfortable, and there is no need to change out of your PJs… However, this can be counterproductive. Reserving your bed only for sleeping will help you feel more relaxed and subconsciously associate your bed with sleep.



4. Limit or Do Without Those Power Naps

If you’re having trouble sleeping, taking naps during the day can make it even harder to fall asleep at night. If you must take a nap, try to limit it to 20 or 30 minutes before 3 pm. This will help you avoid waking up feeling groggy and stop it from disrupting your sleep at night.

5. Avoid caffeine

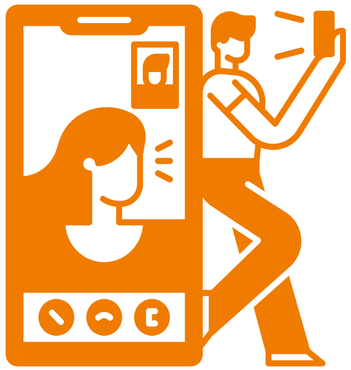
Many of us love a coffee fix in the morning to wake us up and start the day. Try to limit your caffeine intake in the afternoon and evening, though. Caffeine is a stimulant found in coffee, tea, soda and some chocolate. It can stay in your system for 3 to 5 hours and make it difficult to go to sleep.

6. Think About Sound

A study done in 2012 by Orfeu Buxton, an associate professor of biobehavioral health at Penn State, when examining the distinction between different sounds of abrupt threats and gradual non-threats, concluded that non-threatening noises are blocked out by the brain. Therefore, a shrill sound will bolt you right out of a deep sleep, whereas the sound of soft raindrops in a forest will peacefully lull you to sleep.

7. Make A Bedtime Ritual

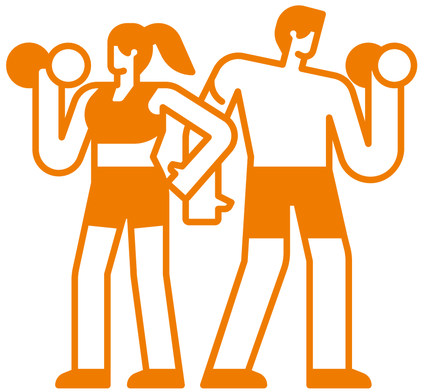
Find time to relax and wind down before bed. This will help you de-stress and separate sleep from your daily activities. It could be taking a hot bath, reading a book, or listening to relaxing music for 15 to 30 minutes, anything that helps you wind down. If you do this before bed every day, you will begin to naturally associate it with going to bed and your body will prepare for better sleep.



8. Turn Off Your Phone

The blue light emitted from electronic devices, such as phones or laptops, reduces the amount of melatonin your brain secretes. Even if it is bedtime according to your body clock, this makes it more difficult to fall asleep.

You can minimise the effect to an extent, by turning the brightness down or using special software. In order to have a more restful sleep, it is best to avoid using your phone or other electronic devices at least an hour before you go to bed.



9. Exercise in The Day

Regular exercise is an important part of a healthy lifestyle and promotes better sleep quality. Exercising right before bed can be the cause of disrupted sleep. Try to exercise earlier in the day or finish your workout at least 3 hours before going to sleep.

10. Make Your Bedroom Perfect for Sleeping

Environment and ambience are important factors that can affect your sleep. Set yourself up for success by creating a relaxing, comfortable area to sleep in. Make sure your mattress and sheets are comfortable and the room is calm and relaxing. A dark, cool, and quiet space is ideal for sleeping. Try to avoid any distractions or noise interrupting your sleep. An eye mask or earplugs may help.

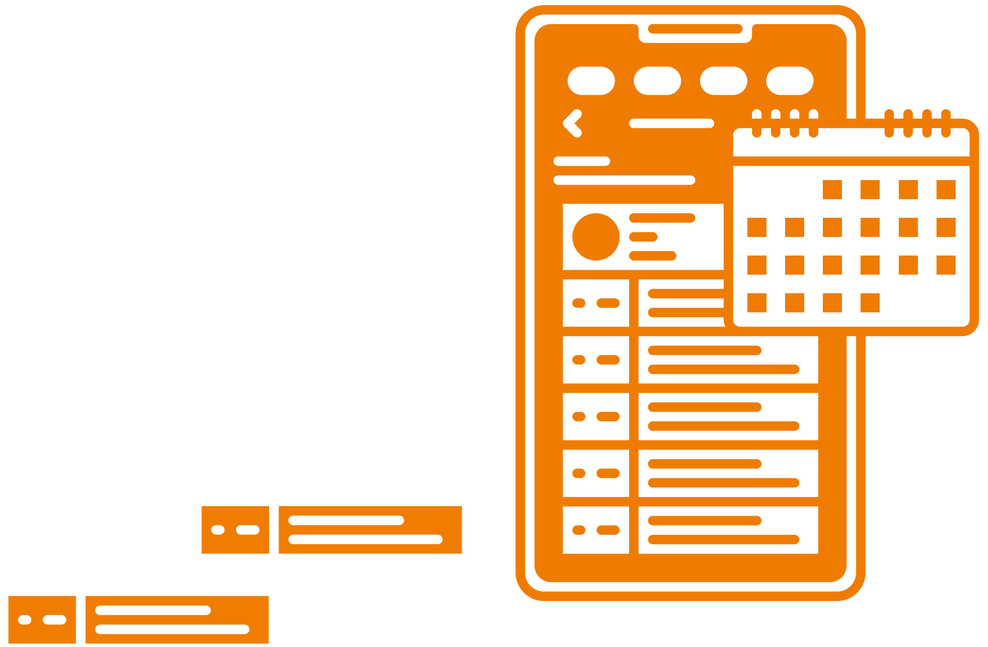
Establishing a healthy sleeping pattern will improve your studies and your mental and physical health. With these tips, you can sleep better and wake up refreshed and alert every day.

10 Simple Ways to Get Better Sleep While Studying Online. (s. d.). NAU. ***http://canada1.national.edu/10-simple-ways-to-get-better-sleep-while-studying-online/***

Listing your tasks

Even if you do not like planning, it is more about knowing where you want to go and what you have to accomplish by the end of the day. Give your brain a direction to follow.

But of course, you do not want to put too much weight on your shoulders, go for realistic goals.



Some apps may help you with organising your studies, homework.

https://istudentpro.com/ iStudiez App is easy to use and helps you create your own schedule with very useful tools.

Maintain a healthy spirit

Keep some time for yourself, keep your hobbies, and socialise with your friends online or, if possible, in real life.

Meditation

Smiling mind is a free app with guided meditation programs that will help you with falling asleep and getting rid of stressful feelings. They also have sessions aiming at digital detox, which might be helpful when studying online!

London Global University suggests that you should *“Set aside some time each day for meditation. It could be as little as five minutes or as much as an hour. Meditation will help to reduce stress and anxiety, as well as help you relax.”*

Julie Colonna, J. C. (2020, 16 novembre). 10 top tips for remote learning. UCL. ***https://www.ucl.ac.uk/students/news/2020/nov/10-top-tips-remote-learning***

Create your workspace

It might be a challenge for you to find the space, but keep in mind that it is more about the atmosphere and the mindset. A special place dedicated to work only will help you focus on the important things.

Take this as a creative challenge! If you do not have a desk, make one out of a nightstand, a shelf or a board if you like working with your hands. As long as you have a comfortable position for your back while working, everything will do.

Staying inside all day might be long, but sitting next to a window to get some natural light makes it easier.

Have you ever heard of desk yoga?

Sitting all day is not the healthiest habit you can have. If you wish, you can stand up and walk 1 minute every hour, go and grab a glass of water, walk around the house, something simple.

If you feel like your focus is going away or your back hurts, these desk yoga poses will also help, and you do not even need to stand up!

1. Neck rolls

I am sure you already know this one. You will bend your chin towards your chest slowly, then your right ear to your right shoulder, and your head to your back to finish with your left ear bending towards your left shoulder.

Repeating this movement 3-5 times in one direction and then the other will help relax your neck muscles and the cervical spine.

2. Cat-cow stretch

You also know this one for sure but maybe not the chair version. The cat-cow stretch will improve blood circulation between your vertebrae, relieving stress and back pain. It will help your focus, coordination and mental stability.

Put your feet flat on the ground, your hands on your knees and arch your back and look up towards the ceiling breathing in. Then bend your back forward with your chin touching your chest breathing in. You can also repeat this movement 3-5 times.

3. Seated Eagle

While sitting, cross your right leg over your left leg and, if you can, wrap it behind your calf.

Join your hands together in front of you as if you were ready to dive. Then you will cross them in order to have both palms facing each other and point them to the sky. Repeat with the left leg over the right one.

What to do if I lose my focus?

Some days are harder than others. If you see that you are unable to focus, go for a quick walk, tidy your room for a few minutes, go for a snack, or do anything that helps you relax for a few moments.

What about listening to music while studying?

First of all, if you are distracted by your noisy housemates, or workers, or any sound, music can help you focus and improve other things.

Researchers have come out with criteria which determine if listening to music while studying would help you or not. If you think it brightens your mood, it means it would help your brain release dopamine and lower the level of cortisol. “Dopamine is a neurotransmitter that promotes feelings of happiness and excitement.”

But be careful about the type of music that you choose, it must not be too fast, and you should not listen to it too loud. Besides, the fewer words, the better because your brain would be distracted by the lyrics. Apparently, rapped lyrics would be even more distracting. The last principle is about your personality; listening to music while studying would affect introverted people’s focus more than it would affect extroverts.

Segaren, S. (2019, 1 janvier). Does listening to music help you become a better student? Study International. ***https://www.studyinternational.com/news/does-listening-to-music-while-studying-make-you-a-better-student/***

During the class

The University of Sydney suggests learning the online Etiquette

You should treat live-streamed classes as if they were regular classes. Make sure your tech is working (particularly your audio settings), and log in a few minutes early, so you are ready to go.

It’s a good idea to try and find a quiet place without distractions and turn off any notifications or pop-ups, so you can concentrate. And remember to mute your mic when you aren’t speaking.

Try and participate as much as possible, just like a usual class. If you don’t feel confident talking on mic, you can use the chat function to ask a question.

Find out more about the COVIMO project on the website ***covimo.czu.cz***.

opportunity window

Co-funded by the
Erasmus+ Programme
of the European Union

Illustrations by Chattapat from
thenounproject.com

Dissemination and Use of Projects' Results

The project aims and results of outputs were disseminating inside and outside our partnership.
Inside the partnership – dissemination was carried out in the most of universities within the project consortium.
Outside the partnership – dissemination was carried out by the most of universities through the dissemination channels and activities described below, where other target audience outside the consortium was involved.

A dissemination plan and planned activities were developed to ensure the availability of project results. Dissemination activities were implemented during the whole period of the project solving in accordance with the plan stated in the project application. The coordination of dissemination activities was carried out by SUA in Nitra and CZU in Prague. As part of the plan, the partners presented the following sub-tasks at the general meetings (May, June, 2021):

1. project website
2. final conference in Nitra
3. infomeetings for national agencies and ministerial bodies
4. conferences
5. partnership with the traditional media
6. modern media and social media
7. brochures

In the first months of the project solving, project logos, flyer, templates for official communication (Word, PowerPoint), logos of universities involved in the project and other visuals for the creation of the project website were collected. Individual universities promoted the project on their home websites and in organized events.

Dissemination group meetings

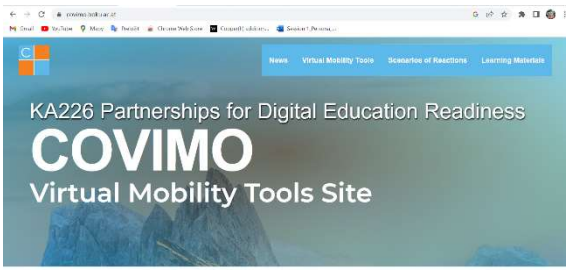
Two separate meetings of the international dissemination group were organized, where dissemination activities were discussed.
September 2, 2021: Dissemination group commented and discussed the style of COVIMO project website.
November 12, 2021: The COVIMO website was discussed in order to make changes. New visual was proposed, based on collage from online meetings. New structure was proposed, and information will be discussed with IT specialist of CZU. Coordinating universities of IO1, IO2, IO3 and IO4 were asked to provide short description of individual outputs, focused on aims and results expected. YouTube channel was discussed, University of Zagreb created the channel.
During the Final conference in Nitra (January 25-26, 2023), dissemination activities were summarized and discussed in order to collect all materials and finalize dissemination outputs.

Target audience *– academic staff and departments of international relations at the individual universities within the partnership.*
The audience has ***international nature****, at least 9 different countries of the project consortium were involved in this dissemination outputs.*

Project website

For the both purposes – **dissemination within and outside the partnership -** was created the project website in order to share information about the project and about the individual project activities**.**
The project website is currently available at: *https://covimo.czu.cz/en*. The content of the website was structured based on individual outputs of the project to make the structure simple and clear. The website structure is organized in five main parts: News (contains YouTube Channel links, link to Virtual Space – unique place for meetings, Invitation to surveys and Dissemination links), Virtual Mobility Tools (contains direct link to Link to the https://covimo.boku.ac.at/ - host website of the Virtual Mobility Tools), Manual of Good practices (Description of aims and activities), Scenarios of Reactions (Description of aims and activities) and Learning materials (Description of aims and activities).
In accordance with the website update, the information is added via CZU access. The website content is actualized regularly.

Target audience *– academic staff, students, and departments of international relations at the individual universities within the partnership, but also outside the consortium academic staff, students and public can find the information about the project and have access to the website, which is created in the English version.*
The audience has ***international nature****, at least 9 different countries of the project consortium were involved in this dissemination outputs.*



Final conference in Nitra

On January 25 and 26, 2023, the final conference of the project was held in the AgroBioTech Research Center in Nitra, Slovakia. The event was attended by more than 40 participants from 9 countries. The conference was combined with workshops for individual project activities.
The conference was opened by the project coordinator, vice-rector for international relations of CZU Prague, Prof. PhDr. Michal Losťák, Ph.D. and vice-dean for science, research, and international relations FBP SPU in Nitra Prof. Ing. Adriana Kolesárová, PhD. The conference was attended by project representatives from all participating partner universities, which were as follows: the University of Natural Resources and Life Sciences, Austria; University of Sarajevo, Bosnia and Herzegovina; University of Zagreb, Croatia; Hungarian University of Agriculture and Life Sciences, Hungary; Technical University of Moldova, Moldova; Warsaw University of Life Sciences, Poland and University of Ljubljana, Slovenia.

During this international event, individual project activities dedicated to virtual mobility tools, a manual of good portable practice, scenarios of universities' responses to the pandemic situation, and also educational materials to support distance learning in the online space were gradually presented. During the workshop, the participants could try out the developed tools of virtual mobility using modern technologies such as sets for virtual reality, 360° cameras for capturing spaces for creating virtual laboratories or various applications for use in the online space. The conference was held in a

positive spirit, and the participants took home pleasant memories of useful moments spent in international society. As an added value of the conference was prepared a podcast recording which is available as a slideshow video interview for the YouTube promotion channel.

Target audience *– academic staff, students and departments of international relations at the individual universities, international audience of academic staff*

The audience has ***national, and international nature****.*

Infomeetings on regional, national, and international levels

Infomeetings were performed by three members of the consortium on the local, regional, and national levels:

SUA:

October 22, 2021: Promotion of the international project, summary of the project activities at the Faculty of Biotechnology and Food Sciences: https://fbp.uniag.sk/sk/aktualne-informacie-reader/diseminaciu-projektu-covimo-v-casee-konzorciu-koordinuje-fbp/

July 22, 2021, SUA promoted information in the portal of Slovak universities on the level of ministerial bodies: https://www.portalvs.sk/en/aktuality/aktualita/projekt-covimo-zamerany-na-virtualne-mobility

SAUM (UTM):

September 15, 2021, SAUM online; "Information Day" Elena SCRIPNIC, vice rector, informed students and staff about international projects, which are implemented at SAUM.

CZU:

January 10, 2023, CZU presented the COVIMO project as the good example project at a seminar for new KA2 project applicants of the Czech National Agency for International Education and Research.

On the international level:

CZU:

CZU promoted the project on four international events:

October 20-21, 2022: 12th ICA Rectors and Deans Forum 2022 at the Vytautas Magnus University Agriculture Academy, Lithuania. https://www.ica-europe.info/forum-focus-home

June 22-24, 2022: CASEE conference at CZU Prague: https://www.ica-casee.eu/index.php/15-events/179-conference-2022

June 8-10, 2022: IROICA pre-conference in Prague, CZU Prague had an active workshop session with IRO members of several European universities. https://www.ica-iroica.eu/index.php/2-uncategorised/108-iroica-conference-2022

September 23-24, 2022: The COVIMO poster was part of the Euroleague for Life Sciences conference organised by CZU Prague on the, https://ells2022.czu.cz/en

Target audience *– academic staff, students and departments of international relations at the individual universities, National Agency for International Education and Research (CZ), public, academic staff of Slovak universities (consortium of 34 Slovak universities), international audience of academic staff*
The audience has ***local, regional, national, and international nature****.*

Partnership with the traditional media

Articles in newspapers were published.

SUA:

Article in the local newspaper was prepared into the university newspaper Poľnohospodár. The article summarized findings from in-depth interview, organized by SUA in Nitra. Online article was published on February 14, 2022 and is available at: https://www.polnohospodar.sk/sk/polnohospodar-reader/osvedcene-postupy-a-reakcie-na-pandemiu-vo-vzdelavani/

Article in the newspaper Poľnohospodár about the COVIMO project impact on changes in tertial education was published on October 24, 2022 and is available at: https://www.polnohospodar.sk/sk/polnohospodar-reader/projekt-covimo-zamerany-na-virtualne-mobility-2/

Article in the newspaper Poľnohospodár about the COVIMO Final conference was published on January 31, 2023 and is available at: https://www.polnohospodar.sk/sk/polnohospodar-reader/na-spu-sa-stretli-clenovia-casee-konzorcia-k-projektu-erasmus-ka2-covimo-pre-zmeny-v-terciarnom-vzdelavani-2/

UNSA:

Article in the newspaper Agroklub about the COVIMO project activities was published on February 19, 2023 and is available at: https://www.agroklub.ba/poljoprivredne-vijesti/digitalni-alati-na-poljoprivrednim-fakultetima-kreirana-cetiri-virtuelna-okruzenja/84183/

Target audience *– academic staff, students, and departments of international relations at the universities and information is available also for the public.*
The audience has ***local, regional and national nature****.*

Conferences and events

Universities were active in dissemination within the conferences and events in order to inform about the project activities inside and outside the consortium.

SAUM – (later UTM):

October 11 - 16, 2021, Mediterranean University of Greece: "International Week" took place under the title "Before, during and after COVID-19 Lessons: from teachers to International Relations Office". Elena SCRIPNIC, vice rector within the event has presented information about all international Projects which has been implemented at SAUM.

October 1 – 2, 2021, SAUM

International Conference event: "Perspectives and results of the Republic of Moldova in European Integration". Elena SIMCIUC, director of the Centre Euro studies, SAUM, moderator of the Conference, informed participants about all project, which are implemented at SAUM.


PROGRAMME

EUAGRO

International Conference "Perspectives and achievements within European Integration of Moldova"

Organisational Committee: Elena SCRIPNIC- dr., head of International Relations Department; Elena SIMCIUC- dr., project coordinator; Aurelia LITVIN-prof., head of the Department; Svetlana PĂTRAȘCU-PhD, IRD staff, coordinator of academic mobility projects.

ORGANISER: State Agrarian University of Moldova within Erasmus+ project „Fostering European Integration of the Republic of Moldova with the specific accent on the agriculture sector / EUAGRO" Reference Number: 610667-PPT-1-2019-1-MD-EPPJMO-PROJECT

CO-ORGANISERS:

CZU:

May 31 -June 3, 2022, Denver, USA, CZU promoted the COVIMO project at NAFSA international conference:

SUA:

6 – 8 April, 2022, Piešťany, Slovakia, SUA promoted the COVIMO project at the international conference Food Safety and Control:

19 – 20 May, 2022, Štrbské Pleso, Slovakia, SUA promoted the COVIMO project at the international conference Hygiena Alimentorum:

5 – 6 October, 2022, Nitra, Slovakia, SUA promoted the COVIMO project at the international conference FOODBIOTECH:

Target audience *– academic staff, students, and departments of international relations at the individual universities within the partnership, but also outside the consortium academic staff, students and departments of international relations.*
The audience had ***regional, national, and international nature.***

Modern and social media

For the both purposes – **dissemination within and outside the partnership** - was dissemination through the modern and social media carried out in order to emphasise the project activities and share the information in a fast modern way.

YouTube channel

The planned activity was also the creation of a YouTube channel by the University of Zagreb, which serves to promote the project as well as project partners. Promotional videos were made available through the YouTube channel, and all partner universities provided videos for preparation of the common promotion video.

Target audience – academic staff, students, and departments of international relations at the individual universities within the partnership, but also outside the consortium academic staff, students and public are able to find the promotional videos.
The audience is of the **international nature**, at least 9 different countries of the project consortium were involved in this dissemination output.
Promotion of the project – UNIZG Youtube channel:
https://www.youtube.com/channel/UC3uYTpcrOIUf7Pm-iQtXTCg
Promotion of the project – UNIZG Youtube video: Introduction to the project:
https://youtu.be/a_xVrsUWja0
Promotion of the project – UNIZG Youtube video: Introduction to project partners:
https://youtu.be/SVg62CgLxiI
Promotion videos on COVIMO project activities:
https://vimeo.com/802300174/273a5465d4
https://www.youtube.com/watch?v=I-JUy2geV_4
Podcast recording which is available as a slideshow video interview for the YouTube promotion channel: https://www.youtube.com/watch?app=desktop&v=_FKaLydVZoc

Promotion on websites

Websites of the individual universities were used to share the information in order to make project and its activities visible. The updates in individual activities are published by the project partners and impressions and outputs are shared.

Target audience *– academic staff, students, and departments of international relations at the individual universities within the partnership, but also outside the consortium academic staff, students and public are able to find the published content.*
The audience is of the ***regional, national, and international nature****, at least 9 different countries of the project consortium were involved in this dissemination output.*

Universities promoted the project itself and individual project activities as follows:
CZU:
Promotion of the project - CZU Website:
https://www.czu.cz/cs/r-7214-mezinarodni-vztahy/r-7250-mezinarodni-spoluprace/r-17353-covimo/covimo.html
https://www.czu.cz/en/r-9190-international-relations/r-9286-international-cooperation/r-17351-covimo/covimo.html

SGGW:
Promotion of the project - SGGW Website:
https://www.sggw.edu.pl/en/home/collaboration-and-services/international-cooperation/erasmus/erasmus-covimo/
https://www.sggw.edu.pl/en/tag/opportunity-window-en/
Promotion of the project:
https://www.ue.katowice.pl/jednostki/biuro-doskonalosci-naukowej/zaproszenia-do-udzialu-w-badaniach/article/zaproszenie-do-wypelnienia-ankiety-projekt-covimo-w-ramach-akcji-erasmus-ka2.html
https://up.lublin.pl/en/blog/good-and-bad-practices-of-transition-to-online-education-during-covid-19-pandemia-a-survey/
https://www.sggw.edu.pl/en/the-covimo-project/
Promotion of the IO2 activity, coordinated by SGGW:
https://www.sggw.edu.pl/en/covimo-project-erasmus-ka2-invitation-to-take-part-in-the-survey/

BOKU:
Promotion of the project - BOKU-IR Website : https://short.boku.ac.at/int-coop-lehreprojekte-projekte
https://boku.ac.at/en/international/themen/internationale-kooperationen/lehre-projekte/boku-international-relations-projects
https://covimo.boku.ac.at/

UNIZG:
Promotion of the project – UNIZG Website (CRO):
https://www.agr.unizg.hr/hr/1196/COVIMO%3A+Erasmus%2B+KA226+Partnerships+for+Digital+Education+Readiness
Promotion of the project – UNIZG Website (EN):
https://www.agr.unizg.hr/en/1197/COVIMO%3A+Erasmus%2B+KA226+Partnerships+for+Digital+Education+Readiness
Promotion of the project – UNIZG Public UNIZG projects base:
https://www.agr.unizg.hr/en/project/814/COVID-19+pandemic+as+an+%E2%80%9Eopportunity+window%E2%80%9C+for+the+transition+towards+new+and+more+inclusive+internationalisation+through+virtual+mobility
https://www.agr.unizg.hr/hr/1624/Erasmus%2B+KA226+projekt+COVIMO

SUA:
Information on current project activity IO2: https://fbp.uniag.sk/sk/aktualne-informacie-reader/osvedcene-postupy-a-reakcie-na-pandemiu-vo-vzdelavani-ako-predmet-spolocnej-diskusie-na-fbp-spu-v-nitre/
Articles in university a and faculty website - promotion of the international project:

https://www.uniag.sk/sk/aktualne-informacie/projekt-covimo-zamerany-na-virtualne-mobility/
https://fbp.uniag.sk/sk/aktualne-informacie-reader/casee-konzorcium-riesi-projekt-covimo-zamerany-na-virtualne-mobility/
Promotion of the international project, summary of the project activities at the Faculty of Biotechnology and Food Sciences: https://fbp.uniag.sk/sk/aktualne-informacie-reader/diseminaciu-projektu-covimo-v-casee-konzorciu-koordinuje-fbp/
https://fbp.uniag.sk/sk/aktualne-informacie-reader/na-spu-sa-stretli-clenovia-casee-konzorcia-k-projektu-erasmus-ka2-covimo-pre-zmeny-v-terciarnom-vzdelavani/

SAUM (UTM):
Dissemination activities in online format - more specifically, the information was spread through the SAUM website and the social media platforms of the SAUM and Department of International Relations:
https://www.uasm.md/ro/covimo
https://utm.md/blog/2023/01/27/utm-la-conferinta-finala-a-proiectului-covimo/
UNSA:
Promotion of the project - UNSA Website : https://ppf.unsa.ba/clanak.php?ID=1391
https://ppf.unsa.ba/uploads/COVIMO/Taljic%20et%20al.,%202022%20COVIMO%20project%20overview.pdf
https://ppf.unsa.ba/clanak.php?ID=1636

MATE:
Promotion of the project - MATE Website
https://en.uni-mate.hu/en/international-projects
UNILJ
Promotion of the project – University of Ljubljana Website:
https://www.bf.uni-lj.si/en/research/research-projects/2021031713472932/

Facebook promotion
Facebook accounts of the individual universities were used to share the information in order to make project and its activities visible. The updates in individual activities are shared by the project partners.

Target audience *– academic staff, students, and departments of international relations at the individual universities within the partnership, but also outside the consortium academic staff, students and public are able to find the information.*
The audience is of the ***regional, national, and international nature****, at least 9 different countries of the project consortium were involved in this dissemination output.*
Universities promoted the project itself and individual project activities as follows:

BOKU:
Promotion of the project - BOKU Facebook:
https://www.facebook.com/boku.exchange/photos/a.513648918699325/5219536684777168/

UNIZG:
Promotion of the project – UNIZG Facebook:
https://x.facebook.com/agronomski/photos/a.1101066926649447/4144883625601080/?type=3&source=48

SAUM (UTM):

Dissemination in online format – use of social media platform:
https://www.facebook.com/Departamentul-Relatii-Internationale-UASM-110205924067436

UNSA:
Dissemination in online format – use of social media platform:
https://www.facebook.com/univerzitet.unsa/posts/5835592419848434

Brochures and promotional materials
Materials for dissemination purposes were created: Project output materials – from IO2, IO3 and IO4; Leaflet and flyer for the project. As well as propagational products with the Erasmus EU logo were prepared for the promotion of COVIMO and EU project.

Target audience *– academic staff, students, and departments of international relations at the individual universities within the partnership, but also outside the consortium academic staff, students and public can find the information.*
The audience is of the ***regional, national, and international nature****, at least 9 different countries of the project consortium were involved in this dissemination output.*
Universities promoted the project itself and individual project activities as follows:

Erasmus+

Česká zemědělská univerzita v Praze

- Erasmus+
- Dům zahraniční spolupráce (DZS) Centre for International Cooperation in Education
- Cooperation for innovation and the exchange of good practices
- Strategic Partnerships
- Partnerships for Digital Education Readiness
- Call 2020
- Round 1
- Grant Agreement Number 2020-1-CZ01-KA226-HE-094453
- Report Type Final
- Date of submission 28/04/2023

Petr Sklenička
Name of legal representative

Main content:	Report Form
Number of attachments:	7

General Information

General information about the project

This report form generated from the Mobility Tool+ consists of the following main sections:

- General Information: General information about the project
- Inactive Organisations within Project Activities
- Context: this section resumes some general information about your project;
- Project Summary: this section summarises your project and the organisations involved as partners;
- Description of the Project: in this section, you are asked to give information about the objectives and topics addressed by your project;
- Project Management
- Implementation: this section asks for information about all the stages of the project: implementation of main activities including practical arrangements, participants' profile, impact, dissemination of the results and future plans;
- Follow-up
- Budget: this section gives a detailed overview of the final amount of the EU grant you request;
- Annexes: additional documents that are mandatory for the completion of the report;

For your convenience, some parts of this report are prefilled with information from the Mobility Tool+

Inactive Organisations within Project Activities

This section doesn't apply for this project

1. Context

this section resumes some general information about your project;

Programme	Erasmus+
Key-Action	Cooperation for innovation and the exchange of good practices
Action	Strategic Partnerships
Action Type	Partnerships for Digital Education Readiness
Field	HE
Main Objective of the project	Innovation
Call	2020
Round	Round 1
Report Type	Final
Language used to fill in the form	EN

1.1. Project Identification

Grant Agreement Number	2020-1-CZ01-KA226-HE-094453
Project Title	COVID-19 pandemic as an “opportunity window” for the transition towards new and more inclusive internationalisation through virtual mobility
Project Acronym	COVIMO
Project Start Date (dd-mm-yyyy)	01/03/2021
Project End Date (dd-mm-yyyy)	28/02/2023
Project Total Duration (months)	24
Beneficiary Organisation Full Legal Name (Latin characters)	Česká zemědělská univerzita v Praze

1.2. National Agency of the Beneficiary Organisation

Identification	Dům zahraniční spolupráce (DZS) Centre for International Cooperation in Education

For further details about the available Erasmus+ National Agencies, please consult the following page:

https://ec.europa.eu/programmes/erasmus-plus/contact_en

2. Project Summary

this section summarises your project and the organisations involved as partners;

Please provide short answers to the following questions, summarising the information you have provided in the rest of the report.

Please use full sentences and clear language. The provided summary will be made public by the European Commission and the National Agencies.

Background: Why did you apply for this project? What were the needs you have addressed?

Our consortium decided to apply for the project to address the current needs of online education and the restrictions aligned with it. The COVID-19 pandemic significantly influenced education all around the world. It has also been the case in tertiary education. The established practices in education were challenged and altered in many ways. The bans on international travel and internal pandemic restrictions significantly influenced the international mobility of students and internationalization in general. Under such circumstances, COVID-19, however, opened the “opportunity window” for innovations in higher education practices. Nevertheless, every novelty takes some time to become established practice, if it happens at all.

Objectives: What did you want to achieve by implementing the project?

The project’s main objective was to reflect and learn from the transition towards new forms of online education among university staff and students by developing a manual of best practices and reactions to the pandemic in tertiary education. We wanted to use the synergy of the university network and develop supportive measures for the acceptance of innovative online forms of education among students and staff, who both were considered the main target groups. The project aimed to cope with the transition to online education in general, to better understand the concept of virtual mobility in particular and to support the inclusiveness of the students and university staff.
The goal was to help the target groups to be ready for the future situation necessitating intensive use of online educational and online supportive activities. A vital point of such project objectives involved the issue of virtual mobility of students and staff within international space since mobility, as was known before the outbreak of the pandemic, was ruined. The cooperation of the universities operating within different national contexts intended to make such a transition easier, thanks to the possibility of sharing the experience.

Implementation: What activities did you implement?

The project implemented several activities that helped to fulfil the planned objectives. We had over twenty online meetings of the project managers and a number of extra meetings of the individual working groups of each intellectual output, we conducted questionnaires, made content analyses, organised webinars, organised an in-person conference for over twenty participants and worked on the development of several outputs, which are described in other parts of the final report (e.g. development of the virtual mobility tools with the help of AR and VR technologies, development of the web application of best practices, development of scenarios of reactions and development of learning materials). From these, we can mention the implementation of a series of focus group sessions at all the universities of the consortium. During the focus group sessions, the various target groups of the project discussed the work tasks and outcomes of the project, brainstormed ideas and provided feedback to the staff members working on the project.
The project did not plan any Learning/Teaching/Training Activities and did not receive any funding for them.

Results: What concrete outputs and other results did your project produce?

1) Virtual mobility tools – Several virtual tools have been established:
a) Online Student Café (accessed by anyone via a website browser or VR glasses)
b) Wood exploration and chainsaw training room (accessed only for teaching purposes with permission by BOKU moderator via website browser or VR glasses)
c) AR Stihl Chainsaw Daily Maintenance training scenario that can be accessed via the AREEKA APP by anyone
d) Floodplain 360° learning experience with two levels of difficulty (accessed by anyone via LMS Moodle implemented as H5P module
e) Virtual mass spectrometry lab with three AR training scenarios – AR Sample Preparation, AR Wardrobe Preparation and AR Measurement, which are all accessible via the AREEKA app by anyone.
f) Progressive Web App of the COVIMO project
2) A manual of good practices: an online application to provide guidance for good and bad practices in online education (https://app.covimo.czu.cz/).
3) Scenarios of Reactions: a) Scenarios of Reactions in higher education; b) Community Garden Summary and Guidelines.
4) Learning Materials Facilitating Inclusion into Online Education – two LMS Moodle modules created as learning materials and training toolkits enabling students and staff to adapt to online education.

Please provide a translation of your project summary in English.

2.1. Summary of participating organisations

Role of the Organisation	Organisation ID	Name of the Organisation	Country of the Organisation	Type of Organisation	Accreditation of organisation (if applicable)	Partnership Entry Date	Partnership Withdrawal Date
Beneficiary	E10209207	Česká zemědělská univerzita v Praze	Czech Republic	Higher education institution (tertiary level)		01/03/2021	28/02/2023
Partner	E10209455	UNIVERSITAET FUER BODENKULTUR WIEN	Austria	Higher education institution (tertiary level)		01/03/2021	28/02/2023
Partner	E10186799	UNIVERZITET U SARAJEVU	Bosnia and Herzegovina	Higher education institution (tertiary level)		01/03/2021	28/02/2023
Partner	E10209270	SVEUCILISTE U ZAGREBU	Croatia	Higher education institution (tertiary level)		01/03/2021	28/02/2023
Partner	E10266721	Magyar Agrár és Élettudományi Egyetem	Hungary	Higher education institution (tertiary level)		01/03/2021	28/02/2023
Partner	E10197967	UNIVERSITATEA TEHNICA A MOLDOVEI	Moldova (Republic of)	Higher education institution (tertiary level)		01/08/2022	28/02/2023
Partner	E10158903	UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA	Moldova (Republic of)	Higher education institution (tertiary level)		01/03/2021	01/08/2022
Partner	E10208838	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Poland	Higher education institution (tertiary level)		01/03/2021	28/02/2023

Partner	E10208910	SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE	Slovakia	Higher education institution (tertiary level)		01/03/2021	28/02/2023
Partner	E10209243	UNIVERZA V LJUBLJANI	Slovenia	Higher education institution (tertiary level)		01/03/2021	28/02/2023

Total number of participating organisations	10

2.2. Associated Partners

In addition to the above formally participating organisations, did you involve associated partners in your project?
No

3. Description of the Project

in this section, you are asked to give information about the objectives and topics addressed by your project;

Please provide a summary of your project's concrete results and achievements. Were all original objectives of the project met? Please comment on any objectives initially pursued but not achieved and describe any achievements exceeding the initial expectations.

The project achieved to set up a forum of cooperating universities that would reflect on the transition towards new forms of online learning among university staff and students after the COVID-19 pandemic. This forum now functions as a platform for sharing best practices, exchanging ideas, and supporting each other in implementing online education in the area of digitalisation in life sciences.

The project generated valuable outputs, including developed virtual mobility tools, a best practice sharing platform, scenarios for reactions in situations such as the COVID-19 pandemic and learning and training materials that facilitate learning in a virtual setting. These outputs can be used by universities in the future whenever they face similar restrictions as those posed by the COVID-19 pandemic. These outputs will serve as a resource for universities to draw upon in navigating challenges related to online education and virtual mobility in the future, particularly in the field of life sciences.

The project uncovered, compared and evaluated the best practices in transitioning towards new forms of online learning. The final outcome of the originally planned manual of these good and bad practices exceeded our expectations as the application, which was created, offers a visually attractive and intuitive way to browse through the genuine experiences of various stakeholders involved in the transition process.

The project prepared a set of scenarios indicating measures and activities that universities can implement under various circumstances caused, for example, by the COVID-19 pandemic or other natural disasters that may disable physical face-to-face education. A specific best practice coming out from the transition towards online education was described in detail, and guidelines for universities on how to follow in similar situations in the future were developed.

The project succeeded in developing and testing various elements of virtual mobility, including virtual reality, with the students and staff of the consortium universities. The full integration into the real international joint programme (Danube AgriFood Master) of participating universities was delayed due to the pilot mode of the programme and the complexity of developing the virtual mobility tools. Nevertheless, students and staff of all the partner universities were allowed to engage in virtual mobility activities and gain experience in using virtual mobility tools for international collaboration and learning. The DAFM programme will be running in full mode from the academic year 2023/2024, when the virtual mobility tools will be fully integrated into the programme.

The project aimed to support students and staff not only from the nine partner universities in coping with the transition to online education. This meant developing learning and training materials that facilitate the involvement of students and staff in online education without compromising the requirements for knowledge, skills, and competencies in higher education. The two modules (one targeted at students and one at lecturers) developed for LMS Moodle combine the outputs of the other parts of the project in a way that significantly contributes to the project's overall objective.

Since the severity of the pandemic dropped during the two years of the project, the circumstances allowed the consortium to also address what to keep from the COVID-19 crisis and analyse the impact it has on tertiary education further on.

Overall, the rather exploratory project was successful in developing outcomes and fulfilling the planned achievements.

In what way was the project innovative and/or complementary to other projects already carried out?

The name of the project already suggests that it focuses on innovation in tertiary education as it looks for “opportunity windows” coming out of the COVID-19 pandemic. This crisis has disrupted traditional higher education practices and has created an opportunity for innovations in online learning. The project aimed to leverage this opportunity by exploring new forms of online education and virtual mobility for students and staff.

Every university was obviously hit by the necessary changes caused by the COVID-19 crisis. The project helped to create a forum for the life sciences universities that could work together and facilitate the exchange of best practices and experiences as a network, leading to more effective online education. This collaborative approach on an international scale and among universities from different national contexts is innovative and complements the national initiatives that several countries started when the pandemic hit.

With the sudden shift to online education, the project recognized the need for new approaches that could provide

quality education to students without requiring them to be physically present in the classroom or laboratory. This led to the development of several virtual mobility tools, such as an experimental laboratory that was designed to simulate learning practices typically done in a real laboratory in a virtual space with the help of augmented reality. The transfer of real-world labs at BOKU into the virtual space with interactive elements and additional specific training is one of the most innovative aspects of the project. The labs were transferred into a 3D environment and produced web-based learning and interaction with the lab equipment, supported by other online learning resources. This allowed students to access training and learning resources that were previously inaccessible, particularly for partners with limited access to such tools and know-how.

In addition to the virtual labs, the project also focused on the socializing of students, recognizing that online environments often lack the social and interactive aspects of traditional classroom learning. To address this issue, the project collaborated with a young start-up in Austria, AREEKA, which helped to develop online rooms where spatial chat improved social exchange and interaction via avatars. These online rooms were equipped with learning material (e.g. the 3D wood logs with specific defects) to allow focused reflection and interaction, enabling students to socialize and collaborate with their peers in a virtual environment.

The established educational collaboration of the partner universities in the network of Central and South-Eastern life science universities allowed testing of the developed tools on several students as planned (for example, those of the Danube Agri-Food Master joint master programme).

Overall, the project's innovative approach to virtual education and socialization was a significant contribution to the field of higher education during a challenging time, demonstrating how new teaching and learning practices can be tested and implemented to provide quality education to students regardless of their physical location.

What was the most relevant horizontal or sectoral priority addressed by your project?

HORIZONTAL:Innovative practices in a digital era

What were the other relevant horizontal or sectoral priorities addressed by your project? (Multiple selection possible)

- HE: Building inclusive higher education systems
- HE: Promoting internationalisation

In case the above selected priorities are different from the ones in the application, please explain why.

The project adhered to the priorities set out in the proposal.

What were the most relevant topics addressed by your project? (Multiple selection possible)

- ICT - new technologies - digital competences
- International cooperation, international relations, development cooperation
- Access for disadvantaged

In case the selected topics are different from the ones in the application, please explain why.

The project adhered to the topics set out in the proposal.

3.1. Participants

Please briefly describe how you selected and involved participants in the different activities of your project.

We carefully reviewed the project goals and objectives to determine the necessary activities required to achieve them. Based on this review, we identified several actions that needed to be completed and determined the specific expertise required for each activity.

Based on the main selection criterion, we conducted a quick survey to evaluate the experience and competencies of the universities and individuals involved in the project. We used the knowledge existing within the CASEE network to gather information about past activities and projects. We considered this information alongside the survey results when selecting participants for each activity.

Once we had identified potential participants for each activity, we assigned a leader to each activity based on their expertise and experience. We carefully considered the qualifications and background of each potential leader and

selected the individuals we believed would be the best fit for the role.

After selecting the leaders, we sought feedback from project participants to ensure that everyone was comfortable with the choices we had made. We considered any comments or suggestions that were made, and we made adjustments to our selections where necessary. The leaders were then asked to develop a detailed plan for the activities they would supervise. We provided guidance on what we expected to see in each plan, including timelines and project outputs.

We also encouraged the leaders to seek input and feedback from the project participants as they developed their plans.

Once the plans were developed, we circulated them among all project participants. Each participant indicated their role in the specific activity, and we made sure that all participating universities were equally involved in every task led by a selected task leader. This ensured that each participant had an opportunity to contribute their skills and knowledge to the project activities.

In conclusion, the selection and involvement process in the different activities of the project was carefully planned and executed to ensure that we had the right individuals with the necessary expertise and experience to achieve our project goals. Each participating university was equally involved in every task led by a selected task leader, ensuring fair participation and distribution of workload. We ensured that all project participants had an opportunity to contribute their skills and knowledge and that we worked collaboratively to achieve success.

Participants with fewer opportunities: did your project involve participants facing situations that make their participation more difficult?
Yes
How many participants (out of the total number) would fall into this category?

20

Which types of situations did these participants face? (Multiple selection possible)

- Disability
- Health problems

How did you support these participants so that they were fully engaged in the ongoing activities?

In order to ensure that all project participants were fully engaged in ongoing activities, we provided a range of support options tailored to their specific needs and abilities. For example, we had a participant who was partly blind and had been a member of the CZU teaching staff for over ten years. This participant already had all the necessary support to act as a teacher, so we did not need to make any additional special provisions for him to be fully engaged in the project. We conducted an in-depth interview with him aside from the focus groups done in the IO2 part of the project to ensure that he had enough space to provide input from his perspective. He evaluated the collected good and bad practices, elaborated on technological issues with devices that helped him to read texts and pointed out the current advancements in the MS Office tools in this regard (picture descriptions, automatic subtitles, etc.).

Given the project's experimental nature, we wanted to ensure that all participants had the opportunity to provide feedback on the designed learning materials and virtual reality used for virtual mobility including the participant with the disability. We wanted to ensure that the learning materials and virtual reality were tailored to meet the specific needs of people with disabilities. Their experience gained during educational activities conducted under COVID-19 was essential for the progress of the project. For the focus group sessions that were part of the development and evaluation of Learning Materials (IO4), we deliberately asked the organisers to invite participants with fewer opportunities. The support materials for these focus groups asked that the participants (both students and staff) reflect on the issue of inclusivity of online teaching. We added one "chapter" focused on ensuring inclusivity in a virtual setting to the Moodle module for staff.

Overall, we were committed to ensuring that all project participants had the necessary support to fully engage in ongoing activities. We recognized each participant's unique needs and abilities and tried to tailor our support options accordingly. By doing so, we were able to create a collaborative and inclusive environment where everyone could contribute their ideas and insights to the project.

Approximately, how many persons not receiving a specific grant benefited from or were targeted by the activities organised by the project (e.g. members of the local community, young people, experts, policy makers, and other relevant stakeholders)? Please enter the number of persons here:

17000

Please describe briefly how and in which activities these persons were involved.

Besides the teams of each university cooperating on the project, a lot of people were involved in the project's activities. Students and teachers, who were the main target group of the project, were involved in several of the activities. The most direct form of engagement was the participation of students and teachers in the focus groups sessions and testing sessions organised as at least two times at each of the nine universities. During these sessions, groups of 15-20 students and 15-20 teachers were presented the concept of the project and, on one occasion, discussed and brainstormed about the good and bad practices during the COVID-19 pandemic and on another occasion, discussed and evaluated and provided feedback on the progress of the project and on the created outcomes (virtual mobility tools and learning materials). Another round of focus group sessions had mixed representatives of different target groups (e.g. students, lecturers, university leadership, researchers, and staff working in internationalisation) who discussed the transition to online education after the first year of the COVID-19 pandemic. These representatives were asked to pre-consult several questions that they received prior to the focus group with their colleagues from the target group in order to represent more general views. The consortium of universities was active in promoting the project and, thanks to a number of dissemination activities, reached a large audience. The degree of involvement of the people only filling in the questionnaires or reading about the project and its activities is lower, but we still count it in the number claimed above.

4. Project Management

How did you ensure proper budget control and time management in your project?

As the coordinator of the project responsible for the project outcomes and financial efficiency, we set up several procedures and checks from the beginning of the project. In order to facilitate this, we first adapted the Excel template provided by our National Agency to create a comprehensive system for time and budget control. This template was designed to monitor the work on the intellectual outputs of all partners and was modified to include additional features that would enhance the efficiency and accuracy of the monitoring process.

To ensure that the project's financial matters were handled with expertise and accuracy and that the time management aspect was effectively managed, we appointed a dedicated financial manager who was responsible for overseeing and managing all financial aspects of the project, including monitoring expenses, tracking invoices, and reconciling accounts. Additionally, we assigned a person who was responsible for collecting and reviewing the timesheets from the whole consortium, which ensured that the time-tracking process was streamlined and that all partners' contributions were accurately recorded and accounted for.

Budget control was structured into several categories following the structure of the Mobility Tool portal. The main budget categories represented the individual Intellectual Outputs and Project Management and Implementation category. By breaking down the budget into categories, we were able to closely monitor the allocation of funds and ensure that each aspect of the project was adequately supported. We reviewed the project's budget regularly to ensure that we were staying within the planned boundaries. If we found some minor deviations (there were not any major ones), we took corrective actions before it would cause larger discrepancies.

To ensure that timesheets are used and controlled effectively in our project, we established clear guidelines for their use. The guidelines included a written document with bullet points for each step. We also recorded and shared an explanatory video of a screen capturing an example of a timesheet being created with voice and direct visual guidelines to fill it in, export, print, sign and upload the signed version. The project coordinator communicated these guidelines to partners several times and ensured that they were followed consistently. Timesheets were signed on a monthly basis by the institutional supervisor and collected by the coordinator via the shared platform MS Teams. The coordinator also checked the general accuracy and asked for corrections of some irregularities when needed.

This proactive approach to budget control and time management helped to ensure that the project's financial resources were being used effectively and that the project remained on track to achieve its goals within the planned timeline. By setting up clear procedures and checks and adapting our systems as needed, we were able to achieve both project outcomes and financial efficiency while maintaining a high degree of collaboration and communication with our partners.

Monitoring: How were the progress, quality and achievement of project activities monitored? Please describe the qualitative and quantitative indicators you used. Please give information about the involved staff, as well as the timing and frequency of the monitoring activities.

CZU Prague, as the coordinator, was responsible for monitoring the project. It held regular monthly general meetings with representatives from all of the partner universities. The first Kick-off meeting was attended by all the members of the Steering Committee, which is formed by the Contact persons from the project's application (they partly overlap with the board of the international joint degree study programme Danube AgriFood Master). The role of the Steering committee was discussed, agreed and defined in the Kick-off meeting and further specified (e.g. voting rights, veto, etc.) in the Partnership Agreement signed between CZU and each of the partner universities. The Steering Committee members appointed responsible persons from their universities to the working group of Project Management and Implementation (PMI). The PMI working group agreed to have regular online General meetings on a monthly basis (instead of every three months as originally planned).

In the first year of the project, the first part of every General meeting was devoted to administrative and organisational issues (e.g. partnership agreement, work contracts, staff declaration, timesheets, budget spending, deliverables, etc.), and the second part to updates on the work tasks of the four working groups responsible for intellectual outputs and the working group focused on dissemination.

In the second year of the project, each General Meeting was always focused on one of the key parts of the project (IO1 – IO4 and Dissemination) and was led by the respective coordinators. The other WG coordinators reported on the tasks and activities done separately in their working groups. They informed the coordinator and the other PMI working group members about the progress of the individual outputs. This helped to prevent an overlap of work and allowed the coordinator (as well as the partners) to have a good overview and to discuss the next work tasks. During the two years of the project, we had a kick-off meeting and 22 General meetings that ended with a two-day final conference. The

obligatory presence of each partner, the monthly frequency of the meetings and the minutes of each meeting helped to overcome the absence of in-person meetings.

The General meetings helped the consortium to establish and maintain the workflow and procedures, to set the deliverables and deadlines and consult instructions and support. Whether these deliverables were met (or not) in the given deadlines was an indicator we used to evaluate the progress of the project.

CZU as the coordinator, involved a project manager, a financial manager and an administrative reviewer of the submitted documents (e.g. timesheets).

Further monitoring was done by individual email correspondence and extra individual online calls between the coordinator and the representatives of partner universities. Email correspondence was on a daily basis. The coordinator also requested each university to send detailed financial reports showing the spending of the granted funds.

Evaluation: How did you evaluate to which extent the project reached its results and objectives? What indicators did you use to measure the quality of the project's results?

The methodology for evaluating the project development and results was influenced by the exploratory nature of the project. The evaluation had to be done repeatedly and mainly on a qualitative basis. In the first year of the project, the questionnaire and focus group sessions, which were predominantly aimed at collecting input for the IO2 Manual of Good Practices, were also used as inputs for discussions at the General meetings of the project management and steering committee. The IO2 focus groups provided valuable input as they had a very large reach. They targeted not only representatives of students and academic staff but also representatives of university management, e-learning experts, researchers, and administrative and support staff. Each of the nine universities had at least 15 people who participated in these focus groups and indirectly guided the development of the project.

In the second year of the project, another round of focus group sessions at the consortium universities was conducted to test the learning materials and virtual mobility tools on students and lecturers. The overall number of students and lecturers joining these focus group sessions was approximately 300 (each focus group at all nine universities had approximately 15 participants per target group). Again, the input gathered was discussed in detail by the project management and steering committee. The results pointed out the need to focus on first-year and/or international students as they faced the most difficulties in studying in a virtual setting, mainly due to the lack of established social ties compared to second-year and/or local students.

Moreover, the virtual mobility tools used in the learning materials were extensively tested also during a testing session at the transnational meeting in Nitra. The on-site and online participants were asked to specify the devices they used to test the virtual mobility tools in a questionnaire. The qualitative feedback provided by the target groups and the data collected during the questionnaires and testing sessions in Nitra proved the usefulness of these experimental training materials. The development of digital tools in education runs fast, and progress in the area of virtual and augmented reality is happening every day, which allows the project to keep on finding new opportunities for further development. The consortium achieved to create a platform to share the results and also secured other funding to continue the project even after the project period. This proves the overall success of the project.

If relevant, please describe any difficulties you have encountered in managing the implementation of the project and how you and your partners handled them. How did you handle project risks (e.g. conflict resolution processes, unforeseen events, etc.)?

Managing a project always involves some level of difficulty, and our project was no exception. However, we were able to successfully manage the implementation of the project by adopting a proactive approach and working closely with our partners to address any issues that arose.

The issues consuming most of the extra time and that caused some difficulties were legal issues. Despite having very close ties based on long-term cooperation in the university networks, it took some time for the universities to agree on a common Partnership Agreement. For example, some universities wanted to follow the jurisdiction of Belgium law (that in the case of a dispute, the arbitration would be based in Brussels), some had very specific GDPR requirements, some had to translate the Partnership Agreement into their local language, or some had to clearly specify the ownership of the planned outcomes, which all took more time than expected because each change had to go around each of the legal departments at all the universities and be agreed by all partners of the consortium. We based the template of the PA on the Grant Agreement and on Pas of other KA2 projects at our university, which helped. Nevertheless, a template for the bilateral partnership agreement with some recommendations provided by the National Agency would have been useful.

Even though the project was focused on an online environment, the online nature of the project presented some unique

challenges that required significant time and effort to overcome. One of the biggest challenges we faced was the lack of in-person interaction between partners, which made it more difficult to establish and maintain effective communication channels.

Another challenge we encountered was related to the technical infrastructure required to support the project. We had to ensure that all partners had access to the necessary tools and software to participate fully in the project, which required careful planning and coordination.

Despite these challenges, we were able to launch and run the project in a proper manner through a combination of careful planning, effective communication, and the use of online tools.

5. Implementation

this section asks for information about all the stages of the project: implementation of main activities including practical arrangements, participants' profile, impact, dissemination of the results and future plans;

Please describe the project activities and expenses covered with the Project Management and Implementation grant. If the requested amount is different from the automatically calculated one based on the project duration, please explain why.

Apart from the expenses on creating intellectual outputs, which were covered by the budget for intellectual outputs, the project had several expenses spent from the Project Management and Implementation grant on extra supporters taking care of the project management and implementation that led to fulfilling the project objectives.

A repetitive activity organised at all of the universities of the consortium was the organisation of focus groups to understand the challenges faced by online learners and to identify areas of improvement. To organize these sessions, we spent a significant amount of funds on hiring facilitators, arranging catering services, and promoting the sessions. The focus group sessions were successful in gathering valuable insights, which were later used to improve the virtual mobility tools and the training materials.

As part of the project, several universities involved in the project purchased 360 cameras and VR sets. These tools were used to test and create immersive and interactive learning experiences for online learners. The purchase of these tools was an essential component of the project, and the funds allocated for this purpose were spent judiciously. The use of these tools proved to be highly effective in improving the quality of online learning.

The project also involved organizing a conference in Nitra, Slovakia, which was attended by 40 participants from the nine different partner universities and countries. Although the travel costs for participants had a separate budget, the conference was planned as a transnational meeting with no funds for the organisers in Nitra. The consortium partners were recommended to send extra participants (above the two people per university as planned in the proposal). The extra participants used the PMI budget for transportation and accommodation. Moreover, the organising university, SUA Nitra, allocated funds from the PMI budget for organizing the conference (e.g. venue rental, catering and promotional materials). The conference was successful in bringing together experts and practitioners in the field of online education and provided a platform for networking and knowledge exchange.

Finally, the project involved the further development of virtual mobility tools above the Exceptional costs that were granted. Some additional funds from the PMI budget were allocated to developers and designers to enhance the user interface and user experience of the virtual mobility tools. The development of these tools was crucial in improving the online learning experience for students.

In conclusion, the funds allocated for the international project focused on innovations in online education were spent judiciously. The focus group sessions, purchase of 360 cameras and VR sets, conference in Nitra, Slovakia, and development of virtual mobility tools were all essential components of the project and contributed significantly to improving the quality of online learning. The project was successful in achieving its objectives, and the funds were spent efficiently to achieve the desired outcomes.

Please describe the methodology you applied in your project.

The project was carried out under the principles of the AGILE methodology. Very shortly, an agile approach is a way to manage a project by breaking it up into several phases. It encourages collaboration within the team and emphasizes the importance of adapting to changing requirements and feedback.

Using the AGILE methodology allowed us to work more effectively and efficiently, as it encourages frequent feedback loops and regular communication with all project beneficiaries. This enabled us to respond more quickly to changing needs and requirements, ensuring that the project remained on track and met its objectives.

The project was led by the first vice-rector of the university, with the International Relations Office (IRO) taking on the primary management responsibilities and supported by the Project Department at the rectorate level and the Multimedia Education Centre that assisted to IRO throughout the project's lifespan. Additionally, several experts from the faculties and the Institute of Education and Communication of CZU were involved in the project, contributing their expertise and knowledge in individual fields.

Since a lot of employees of CZU are certificated by PRINCE2, there were many practices used from this methodology as well. PRINCE2 (PRojects IN Controlled Environments) is a process-based project management methodology that provides a framework for managing projects of any size and complexity. It is widely used in many other countries around the world. It is based on a set of principles, themes, and processes that provide guidance on how to initiate, plan, execute, monitor and control, and close a project. The methodology focuses on business justification, stakeholder

engagement, and managing risks, among other key areas. COVIMO project used mainly risk managing areas and diversification of roles and responsibilities from this approach.

The CZU university has a strong track record of participating in and even leading international projects, including those funded by the Horizon Europe Programme. This experience allowed us to approach this project with confidence and a clear understanding of the challenges and opportunities involved in managing a complex, multinational project.

How did the project partners contribute to the project? Please detail specific contributions made by the partner organisations.

There has been a clear distribution of the tasks and responsibilities of each individual partner from the beginning of the project. The distribution of the tasks was adjusted during the project according to the circumstances, situations and needs but not in any official way, just by cooperation and exchange of small tasks among the partners. The leaders of the intellectual outputs have remained the same during the whole period as well as the rest of the other officially assigned responsibilities.

The first stepping stone, where the distribution of tasks was proven by all partners, was the preparation of the partnership agreement. The agreement was prepared by the coordinator CZU and then distributed to all partners to go through with their legal offices. All the comments/requirements were discussed and interpreted in several sessions. The final form has been approved by the whole consortium before the signing procedure.

The Steering committee has functioned as proposed in the partnership agreement. One responsible person per each university has been appointed to monitor the progress of the project implementation. Together with these persons there has been created a team of supporters whose involvement was covered by the PMI budget – The Project Management and Implementation working group.

BOKU took care of IO1 - Virtual mobility tools. IO1 has been divided into six work tasks which have been focused on scenarios of virtual learning spaces and their subsequent development. BOKU contributed to this task with their well-developed background in virtual environments, which they have been focusing on for a long time. They also managed the cooperation with the external company AREEKA.

SGGW focused on IO2 - an International manual of examples of transferable good practices, where they have dealt with best practices and limitations of virtual teaching and mobility in five subsequent work tasks. Under their coordination, all of the partner universities conducted focus group sessions with several target groups at their institutions in order to define the good and bad practices of the transition to online education. Based on the collected inputs, a digital case-based roadmap in the form of an interactive web application was created.

MATE has led IO3 - Scenarios of reactions in higher education. MATE, together with other partners, developed a questionnaire, launched it among European and non-European universities and prepared an analysis for different scenarios about how to proceed under various disastrous circumstances and how these scenarios can support or hamper the inclusiveness of online education. They also shared a very successful reaction in the form of a case study of their agroecological garden with a full description and recommendations.

CZU Prague IO4 was responsible for Learning materials facilitating inclusion into online education. CZU has made an extensive analysis of the barriers to online education for students and staff and, based on the analysis, developed learning materials tackling these barriers in the form of two Moodle modules. CZU was also responsible for the overall coordination of the project.

More details on the activities and the individual roles are further described under each individual IO and in the different sections of the Final report.

The main coordination of dissemination activities was carried out by the Slovak University of Agriculture in Nitra (SUA) with the support of CZU. The University of Zagreb (UNIZG) played a significant role in the matter of promotion of the project. Besides other things, UNIZG created a YouTube channel of the project and produced three videos about the project. More can be read in the part of the report on dissemination.

The project also involved two partner countries of Erasmus (the State Agrarian University of Moldova, which transformed into the Technical University of Moldova during the project, and the University of Sarajevo). The impact of the project on them was significant and is further described in the Impact section of the Final report.

Each of the partners has fulfilled its role and assigned duties according to the schedule. Some deadlines have been postponed to a later stage of the project, but not in the matter of disruption of surrounding activities or the implementation of the project itself. The main workload has been put on the leaders of intellectual outputs and the coordinator of the whole project CZU, but otherwise, all the participants were involved more or less equally.

How did you communicate and cooperate with your partners? What are the positive and negative elements of the cooperation process? What would you improve if you were to carry out a similar project in the future?

We communicated with our partners regularly through various channels such as email, phone, and video conferencing. We made sure to keep our partners informed of project progress, changes, and any issues that arose. Our communication was timely, clear, and concise, which helped to reduce confusion and ensure that everyone was on the same page. The main bedrock of the cooperation was the monthly consortium COVIMO General meeting via MS Teams.

Microsoft Teams and OneDrive were the two main collaborative platforms that enabled efficient communication and data management. These tools not only simplified project management but also enhanced productivity and ensured that all team members stayed informed and up-to-date on project progress. By using these tools as the project communication channel and repository, project teams could streamline their workflows and achieve their goals more effectively.

One of the positive elements of our communication process was that we established clear lines of communication with our partners from the outset of the project. We also ensured that communication was two-way, and we actively sought feedback and input from our partners. This helped to build trust and ensure that everyone was invested in the project's success. Another positive element was that we were flexible in our communication approach, which allowed us to adapt to our partner's preferences. For example, some partners preferred to communicate via email, while others preferred video conferencing. By being flexible, we were able to accommodate their preferences and ensure that communication was effective. The crucial point was establishing clear roles and responsibilities from the beginning of the project. This helped to reduce confusion and ensure that everyone knew what was expected of them. We also established a clear escalation process for resolving any issues that arose, which helped to keep the project on track. Moreover, we tried to foster a collaborative culture that encouraged open communication and constructive feedback. This allowed us to work effectively together, identify areas for improvement, and make adjustments as necessary.

One of the challenges was that some of our partners were not as responsive as we would have liked, which sometimes led to delays in decision-making and project progress. This made it difficult to keep the project on schedule sometimes, and we had to work harder to ensure that we stayed on track. Some partners had difficulty to get to use to the project collaboration tools, Microsoft Teams and OneDrive. Additional support and resources were provided to assist them in using these platforms effectively.

Even though we planned to meet in person with the whole consortium at the beginning of the project, it was not possible due to the current COVID-19 pandemic and the restrictions around it. The first in-person meeting took place at the end of the project. Next time we would like to organize the kick-off meeting in person and as soon as possible (if circumstances permit).

What target groups were addressed in your activities plan? Were the target groups changed in comparison to the ones identified in the application form?

We addressed the following main target groups inside and outside of the consortium:

Inside of the partnership on the local and regional level:
- students (BSc, MSc, PhD)
- academic staff (lecturers, researchers)
- non-academic staff involved in internationalisation
- leadership of universities
- student start-ups focusing on digital technologies

Target groups inside the partnership were identical to the ones identified in the application form. However, only the start-up incubator BOKU BASE of the university in Vienna (BOKU) was targeted in connection to the development of the virtual environments coordinated at BOKU. Several focus groups at the individual universities within the partnership were conducted with students as well as university leadership, academic staff, and non-academic workers connected to internationalisation. Students were invited to test and provide feedback for improvement, and it was agreed that the virtual mobility tools have to be further linked to existing courses, curricula and exchange programs. Involved academics increased their digital competencies and confidence, and non-academic staff connected to internationalisation managed to obtain skills that prepared them for disruptive changes.

In the second stage, with the time distance of one year and back to the face-to-face format of teaching, new focus groups were performed with a greater focus on students and lecturers as the main target groups. The main research areas were: changes in education in the last few years, barriers to study/teaching during and after COVID-19, the concept of virtual mobility, improvements (VR sets, instructional videos etc.) or issues with multiple different platforms

for teaching/learning.

Students agreed that it is important to meet in person for the practicals and seminars, but the theoretical lectures could be conducted online (streamed or recorded). There is a need to have clear instructions about the teaching, how to connect, and where to search for information and materials in one place where students can easily find it. The information was often confusing and overwhelming because there were too many tools and platforms that teachers were using, which took a lot of time and slowed them down.

Academics find the hybrid format of teaching extremely challenging. However, it gives them great opportunities to invite interesting speakers to their lectures. Teachers don't like to upload their presentations for students to use freely and also need to come up with methods how to keep the students' attention (e.g. 15 min lecture - 15 min practice - 15 min discussion). Cheating during online examinations was also problematic, which led to different preparation for the exams (multiple choice vs open book tests). They got accustomed to online consultations with students, and some still offer this option.

Outside of the partnership on the national and EU level:
- key providers of the IT solutions for academia (Microsoft, Novell, Google, their national offices)
- governmental bodies covering the field of tertiary education (ministries, accreditation agencies)
- lecturers and academic staff in the life sciences sector
- students in the life sciences study programmes

Target groups outside the partnership were identical to the ones identified in the application form. The project website has been improved, as well as the application https://app.covimo.czu.cz/. The aim of this application is mainly to educate students and university staff to cope with the transition to online education and to help them manage such changes from the pedagogical, technological, psychological and administrative points of view and to create beneficial, interesting and interactive online learning. Anybody from the outside and inside can get ideas and inspiration from this website.

The project of the International Students Community Garden at MATE emerged as a student-based initiative to ease the physical, emotional and economic impacts of the lockdown through the creation of an agroecological garden - SZIA. The project has become a success and, since then, has grown into a complex program at the university involving a large spectrum of target groups (even those not planned in the project, such as NGOs).

If relevant for your project, did you use or do you plan to use Erasmus+ online platforms (e.g. EPALE, School Education Gateway, eTwinning) for the preparation, implementation and/or follow-up of your project? If yes, please describe how.

We did not use any of the Erasmus+ online platforms during the project, and we have no plans to use them after the end of the project. However, a follow-up project is planned within the CASEE network to explore further possibilities of using different platforms.

5.1. Transnational Project Meetings

This table reflects the information entered in Mobility Tool+. If you would like to change it please do it in the corresponding Mobility Tool+ section. The information presented here will be automatically refreshed after that.

Meeting ID	94453-TPM-00001
Meeting Title	Kick-off meeting
Description of the meeting	The Kick-off meeting was an ONLINE meeting attended by 19 participants from all partner universities. The agenda: Foreword from the coordinating university Overview of the aims of the project, the key activities and the planned outcomes Overview of the terms and financial conditions Fixing the dates of the planned meetings and regular project meetings Setting up the Steering Committee, Working Groups and their leaders for each of the project Intellectual Output The consortium agreed on having regular monthly online meetings on the MS Teams platform.
Start Date	29/03/2021
End Date	29/03/2021
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol

No. of Participants	0

Meeting ID	94453-TPM-00002
Meeting Title	Presenting good and bad practices of transition to on-line education during COVID-19 pandemics
Description of the meeting	This ONLINE meeting was attended by 25 participants from all the partner universities. The agenda was: Going through the Draft of the Partnership Agreement and Annexes Update on the Intellectual Output 2: International manual of examples of transferable good practices (coordinated by SGGW) Future meetings schedule (setting a date for the end of May)
Start Date	27/04/2021
End Date	27/04/2021
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00003
Meeting Title	COVIMO MAY General Meeting - ONLINE
Description of the meeting	Agenda: Organisational issues – Partnership Agreement, Banking details, List of staff members, Declaration of staff, Timesheets (CZU) Outline of IO3 - Scenarios of reactions in higher education (MATE) Outline of IO4 - Learning materials facilitating inclusion into online education (CZU) Outline of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule
Start Date	25/05/2021
End Date	25/05/2021
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00004
Meeting Title	COVIMO JUNE General Meeting - ONLINE
Description of the meeting	Agenda: Organisational issues – Partnership Agreement, Banking details, List of staff members, Declaration of staff, Timesheets (CZU) Update IO2 - International manual of examples of transferable good practices (SGGW) Update IO3 - Scenarios of reactions in higher education (MATE) Outline of IO4 - Learning materials facilitating inclusion into online education (CZU) Outline of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule (setting a date for the end of July)
Start Date	29/06/2021
End Date	29/06/2021
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00005
Meeting Title	COVIMO July General Meeting - ONLINE

Description of the meeting	Agenda: Organisational issues – Partnership Agreement, List of staff members, Declaration of staff, Timesheets (CZU) Update IO2 - International manual of examples of transferable good practices (SGGW) Update IO3 - Scenarios of reactions in higher education (MATE) Outline of IO4 - Learning materials facilitating inclusion into online education (CZU) Outline of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule (setting a date for the end of August/September)
Start Date	27/07/2021
End Date	27/07/2021
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00006
Meeting Title	COVIMO September General Meeting - ONLINE
Description of the meeting	Agenda: Organisational issues – Partnership Agreement, List of staff members, Declaration of staff, Timesheets Update IO2 - International manual of examples of transferable good practices (SGGW) Update IO3 - Scenarios of reactions in higher education (MATE) Update of IO4 - Learning materials facilitating inclusion into online education (CZU) Update of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule (setting a date for the beginning of October)
Start Date	07/09/2021
End Date	07/09/2021
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00007
Meeting Title	COVIMO October General Meeting - ONLINE
Description of the meeting	Agenda: Organisational issues – Partnership Agreement, List of staff members, Declaration of staff, Timesheets Update IO2 - International manual of examples of transferable good practices (SGGW) Update IO3 - Scenarios of reactions in higher education (MATE) Outline of IO4 - Learning materials facilitating inclusion into online education (CZU) Outline of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule (setting a date for the beginning of November)
Start Date	05/10/2021
End Date	05/10/2021
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00008
Meeting Title	COVIMO November General Meeting - ONLINE
Description of the meeting	Agenda: Organisational issues – List of staff members, Declaration of staff, Timesheets Update IO2 - International manual of examples of transferable good practices (SGGW) Update IO3 - Scenarios of reactions in higher education (MATE) Update of IO4 - Learning materials facilitating inclusion into online education (CZU) Update of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule (setting a date for the beginning of December)
Start Date	02/11/2021
End Date	02/11/2021

Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00009
Meeting Title	COVIMO December General Meeting - ONLINE
Description of the meeting	Agenda: Organisational issues – List of staff members, Declaration of staff, Timesheets Update IO2 - International manual of examples of transferable good practices (SGGW) Update IO3 - Scenarios of reactions in higher education (MATE) Update of IO4 - Learning materials facilitating inclusion into online education (CZU) Update of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule (setting a date for the beginning of January)
Start Date	07/12/2021
End Date	07/12/2021
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00010
Meeting Title	COVIMO January General Meeting - ONLINE
Description of the meeting	Agenda: Organisational issues – Refusal letter regarding Work contracts, Timesheets Update IO2 - International manual of examples of transferable good practices (SGGW) Update IO3 - Scenarios of reactions in higher education (MATE) Outline of IO4 - Learning materials facilitating inclusion into online education (CZU) Outline of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule (setting a date for the beginning of February)
Start Date	11/01/2022
End Date	11/01/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00011
Meeting Title	COVIMO February General Meeting - ONLINE
Description of the meeting	Agenda: Organisational issues - Interim Report, Timesheets Update IO2 - International manual of examples of transferable good practices (SGGW) Update IO3 - Scenarios of reactions in higher education (MATE) Update of IO4 - Learning materials facilitating inclusion into online education (CZU) Update of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule (setting a date for the beginning of March)
Start Date	09/02/2022
End Date	09/02/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00012

Meeting Title	COVIMO March General Meeting - ONLINE
Description of the meeting	Agenda: Organisational issues – Deliverables for the Interim Report Update IO2 - International manual of examples of transferable good practices (SGGW) Update IO3 - Scenarios of reactions in higher education (MATE) Update of IO4 - Learning materials facilitating inclusion into online education (CZU) Update of IO1 - Virtual mobility tools (BOKU) Dissemination (SUA) Future meetings schedule (setting a date for the beginning of April)
Start Date	15/03/2022
End Date	15/03/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00013
Meeting Title	COVIMO April General Meeting - ONLINE
Description of the meeting	1. Organisational issues – Feedback, Overview and follow up to the deliverables for the Interim Report (CZU) 2. Update IO2 - International manual of examples of transferable good practices (SGGW) 3. Update IO3 - Scenarios of reactions in higher education (MATE) 4. Update IO4 - Learning materials facilitating inclusion into online education (CZU) 5. Update IO1 - Virtual mobility tools (BOKU) 6. Dissemination (SUA) 7. Future meetings schedule (setting a date for the beginning of May)
Start Date	12/04/2022
End Date	12/04/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00014
Meeting Title	COVIMO May General Meeting - ONLINE
Description of the meeting	1. Organisational issues – 2nd payments, Financial Reports and a new concept of General Meetings 2. Update IO2 - International manual of examples of transferable good practices (SGGW) 3. Update IO3 - Scenarios of reactions in higher education (MATE) 4. Update IO4 - Learning materials facilitating inclusion into online education (CZU) 5. Update IO1 - Virtual mobility tools (BOKU) 6. Dissemination (SUA) 7. Future meetings schedule (setting a date for the beginning of June)
Start Date	10/05/2022
End Date	10/05/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00015
Meeting Title	COVIMO June General Meeting - ONLINE
Description of the meeting	1. Presenting the scenarios of reactions to COVID-19 pandemic in higher education landscape – IO3 major update 2. Organisational issues – Timesheets 3. Future meetings schedule (setting a date for mid July) 4. Update IO2 - International manual of examples of transferable good practices (SGGW) 5. Update of IO4 - Learning materials facilitating inclusion into online education (CZU) 6. Update of IO1 - Virtual mobility tools (BOKU) 7. Update of Dissemination (SUA)
Start Date	14/06/2022

End Date	14/06/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00016
Meeting Title	COVIMO July General Meeting - ONLINE
Description of the meeting	Agenda 1. Follow-up on IO3 Scenarios of reactions to COVID-19 pandemic in higher education landscape 2. Presenting IO4 - Learning materials facilitating inclusion into online education (CZU) – Major update 3. Update on IO2 - International manual of examples of transferable good practices (SGGW) 4. Update on IO1 - Virtual mobility tools (BOKU) 5. Dissemination (SUA) 6. Organisational issues – Timesheets 7. Future meetings schedule (setting a date for August)
Start Date	19/07/2022
End Date	19/07/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00017
Meeting Title	COVIMO August General Meeting - ONLINE
Description of the meeting	Agenda 1. Presenting IO1 - Virtual mobility tools (BOKU) - Major update 2. Update on IO2 - International manual of examples of transferable good practices (SGGW) 3. Update on IO3 Scenarios of reactions to COVID-19 pandemic in higher education landscape 4. Follow-up on IO4 - Learning materials facilitating inclusion into online education (CZU) 5. Dissemination (SUA) 6. Organisational issues – Timesheets 7. Future meetings schedule (setting a date for September)
Start Date	23/08/2022
End Date	23/08/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00018
Meeting Title	COVIMO September General Meeting - ONLINE
Description of the meeting	Agenda 1. Presenting IO2 - International manual of examples of transferable good practices (SGGW) 2. Follow-up on IO1 - Virtual mobility tools (BOKU) 3. Update on IO3 - Scenarios of reactions to COVID-19 pandemic in higher education landscape 4. Uúdate on IO4 - Learning materials facilitating inclusion into online education (CZU) 5. Dissemination (SUA) 6. Organisational issues – Timesheets 7. Future meetings schedule (setting a date for October)
Start Date	27/09/2022
End Date	27/09/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00019
Meeting Title	COVIMO October General Meeting - ONLINE
Description of the meeting	Agenda 1. Update on IO3 - Scenarios of reactions to COVID-19 pandemic in higher education landscape 2. Dissemination (SUA) – Conference dates 3. Presenting IO4 - Learning materials facilitating inclusion into online education (CZU) 4. Follow-up on IO2 - International manual of examples of transferable good practices (SGGW) 5. Update on IO1 - Virtual mobility tools (BOKU) 6. Organisational issues – Timesheets 7. Future meetings schedule – 15.11.2022 (IO3 - MATE)
Start Date	25/10/2022
End Date	25/10/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00020
Meeting Title	COVIMO November General Meeting - ONLINE
Description of the meeting	Agenda 1. Presenting IO3 - Scenarios of reactions to COVID-19 pandemic in higher education landscape 2. Follow-up on IO4 - Learning materials facilitating inclusion into online education (CZU) 3. Update on IO1 - Virtual mobility tools (BOKU) 4. Update on IO2 - International manual of examples of transferable good practices (SGGW) 5. Organisational issues – Extra meeting for Timesheets 6. Dissemination (SUA) – Conference information 7. Future meetings schedule – 13.12.2022 (IO1 - BOKU)
Start Date	15/11/2022
End Date	15/11/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00021
Meeting Title	COVIMO December General Meeting - ONLINE
Description of the meeting	Agenda 1. Presenting IO1 - Virtual mobility tools (BOKU) 2. Follow-up on IO3 - Scenarios of reactions to COVID-19 pandemic in higher education landscape 3. Update on IO2 - International manual of examples of transferable good practices (SGGW) 4. Update on IO4 - Learning materials facilitating inclusion into online education (CZU) 5. Dissemination (SUA) – Conference information 6. Future meetings schedule – 17.01.2023 (Conference planning)
Start Date	13/12/2022
End Date	13/12/2022
Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00022
Meeting Title	COVIMO January General Meeting - ONLINE
Description of the meeting	Agenda 1) Discussing the sent proposals for sessions at Nitra 2) Conference Programme 3) Organisational issues - Travel and Accommodation arrangements
Start Date	17/01/2023
End Date	17/01/2023

Receiving Organisation	Česká zemědělská univerzita v Praze
Receiving Country	Czech Republic
Receiving City	Praha - Suchdol
No. of Participants	0

Meeting ID	94453-TPM-00023
Meeting Title	The COVIMO Final Conference in Nitra
Description of the meeting	The Final conference in Nitra, Slovakia, took place in January 25 and 26 and was attended by 37 participants from the nine different partner universities and countries.The conference was planned as a transnational meeting with no funds for the organisers in Nitra. The consortium partners were recommended to send extra participants (above the two people per university as planned in the proposal). The extra participants were recommended to use the PMI budget for transportation and accommodation. The organising university, SUA Nitra, was responsible for organizing the conference (e.g. arranging the venue, catering and activities). The conference was successful in bringing together experts and practitioners in the field of online education and provided a platform for networking and knowledge exchange. It was a two-day conference focused on the results of the project. Each project coordinator was responsible for an active working session allowing us to test, discuss and improve the project outcomes. A podcast was recorded during the conference, and a promotional video was created (https://youtu.be/I-JUy2geV_4). The participants also enjoyed networking activities as this was the first time the people met in person. The programme of the conference: DAY1 Welcome speech and project introduction by Michal Lošťák (CZU Vice-Rector) and Adriana Kolesárová (SUA Vice-Dean) Dissemination activities IO1 Virtual Mobility tools (Test of App, Testing Virtual Online Café with VR glasses, Testing Chainsaw daily maintenance & reporting back) IO1 Virtual Mobility tools (Testing virtual learning rooms (wood grading) VR glasses, Testing Floodplain scenarios, reporting back (Moodle, H5P) IO2 International manual of examples of transferable good practices Tour of the research center AgroBioTech Social evening with wine tasting DAY2 IO3 Scenarios of reactions IO3 Active workshop session for COVIMO Additional multilingual activities IO4 Students and staff online support services - Outcomes of IO4 Focus Groups Closing remarks
Start Date	25/01/2023
End Date	26/01/2023
Receiving Organisation	SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE
Receiving Country	Slovakia
Receiving City	NITRA
No. of Participants	40

Total Number of Participants	40

5.2. Intellectual Outputs

This table reflects the information entered in Mobility Tool+. If you would like to change it please do it in the corresponding Mobility Tool+ section. The information presented here will be automatically refreshed after that.

Output Identification	O1
Output title	Virtual mobility tools
Output Type	Open / online / digital education – Other
	The COVID-19 crisis led to the necessity of improved ways for virtual mobility. The focus of IO1 is in the area of life sciences, especially on the need for exchanging know-how and experience in distant learning with advanced laboratory equipment. It is an inclusive element for the consortium partners with limited access to such tools and know-how. For a clear description, we divided the report into individual tasks: Work task IO1-1: Deciding on three scenarios to be implemented as virtual learning spaces In work task IO1-1, the following three scenarios were identified with the help of an interactive collaboration tool on Google Jamboards: 1) a mass spectrometry lab at BOKU with food commodities to be analysed for elemental content; 2) a virtual learning hall focusing on evaluating and sorting wood logs with different defects; 3) a 360° interactive learning experience to explore afloodplain section along the Danube river was implemented in H5P in two levels of complexity to be used in the Moodle platforms of the partners. In addition, it was decided to add 4) an augmented

Description of the intellectual output	reality training module on how to do daily maintenance of a chainsaw. Work task IO1-2: Planning and implementing the room for social exchange in AREEKA Hub The BOKU student café TÜWI was selected to be modelled in 3D as avirtual environment. Avatars carrying the logos of the different partner universities were implemented. The student cafe can be either entered as an avatar or using acamera-based representation. The virtual student café can be entered via alink in any browser (recommended is Google Chrome). Work task IO1-3: Designing three online virtual environments using 3D imaging and interactive e-learning tools, allowing for 3D environments (e.g. Adobe Captivate) together with Teachers The design for the virtual mass spectrometry lab was supported by the Division of Analytical Chemistry at BOKU, who supported the project by giving supervision and input to the selection of activities and elements to be learned by students during a virtual training. Three 3D models for augmented reality were created: 1) wardrobe preparation, 2) sample preparation and 3) sample measurement. The modelling and the implementation have been done by AREEKA, which has been involved in the project from the very beginning. The three rooms were implemented separately and can be accessed via the AREEKA App using so-called trigger images. Besides student café TÜWI, avirtual reality hall in a mountain forest was set up to for learning about defects in wood logs. It has two 3D wood logs and break-out rooms for students to explore different educational resources that can be placed there. 360° images were captured in the floodplain near Vienna. The Institute of Hydrobiology at BOKU was involved in providing input on which elements should be implemented for learning. The interactive learning experience was implemented in H5P to be used on the Moodle platforms at the partner universities at two levels of complexity. Work task IO1-4: Testing online labs and social rooms with students and staff collection of feedback Students and teachers tested the virtual environments throughout their production to provide feedback to the developers. Students found the experience very interesting and engaging and agreed that such environments could contribute to social learning when implemented along different courses during the curriculum. Especially the possibilities of visual learning, social networking and interaction which might benefit especially introverted students in getting in contact with students, interactivity, gaining insight into complex issues in afun way, etc., were mentioned. Students also provided ideas for an improvement of the experiences, e.g. to add sound in the natural environments, and that the interactions need to be incorporated in study programmes in ameaningful didactical way. Work task IO1-5: Set-up of PWA at BOKU The open-source online environment Siberian CMS running at BOKU was used to implement a Progressive Web App (PWA) to provide mobile access to the project resources. The advantage of a PWA is that its content can easily be adjusted, and there is no need to publish it to the App stores. Work task IO1-6: Integration of developed scenarios into existing educational programs As a final step, the scenarios were partly integrated into the new Joint Master degree study programme Danube AgriFood Master – DAFM (https://agrifoodmaster.eu/index.html). Teaching staff (together with students as the main target group) have been involved in the production and testing, and quality assurance of the produced interactions. Students have been invited to test and provide feedback for improvement. The virtual mobility tools will be further linked to existing courses, curricula and exchange programs. A full description of the results is attached and uploaded to the project's results platform.
Start Date (dd-mm-yyyy)	01/03/2021
End Date (dd-mm-yyyy)	28/02/2023
Available Languages	English
Available Medias	Interactive Resource, Other, Software
Leading Organisation	UNIVERSITAET FUER BODENKULTUR WIEN
Participating Organisations	Česká zemědělská univerzita v Praze, UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA, SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE, UNIVERZITET U SARAJEVU, SVEUCILISTE U ZAGREBU, Magyar Agrár és Élettudományi Egyetem, SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO, UNIVERZA V LJUBLJANI

Output Identification	O2
Output title	International manual of examples of transferable good practices
Output Type	Learning / teaching / training material – Manual / handbook / guidance material
	Based on the sudden outbreak of COVID-19, universities shifted all or the vast majority of traditional in-person classes into remote modus. Distance teaching was imposed, and academic mobility was inhibited. In terms of teaching, there was neither time nor capability for the reflection on what serves best and gains general acceptance of the audience and teaching staff. For a clear description of the activities, we divided the report into individual tasks: Work task IO2-1: Preparation of a questionnaire to be shared with the partners to spot the best practices and identify difficulties/limitations of virtual teaching and mobility (Online University) The main research areas were: support in virtual learning, methodology for online learning, availability and importance of methods and tools for online communication, feedback on online learning of different subject areas, etc. Work task IO2-2: Dissemination of questionnaire to partner Universities (as wide as possible, no less than 100 different HE institutions). The consortium sent the questionnaire with a cover letter to

Description of the intellectual output	127 HEIs. Six hundred fifty-seven answers were received from 84 HEIs. An analysis of the results was made in textual and graphical form. It helped to identify the positive and negative aspects of online learning. Work task IO2-3: “Vivid dialogue” created by a different group of people from different units, aiming in the creation of innovative, future proof and IT-ready solutions for the European Higher Education and Research Area. The concept of the “Vivid dialogue” was discussed and prepared by the WG members. It was recommended to conduct focus group sessions with 8 to 15 participants. The focus group sessions at each university took place between December 2021 and February 2022 (they were about 1-2 hours long). Due to the COVID-19 restrictions, some universities had to do them online, and others met in person. Each focus group participant represented aggregated views of his/her colleagues from the same target group (see below). For example, the invited student was the head of a student organisation and was instructed to pre-discuss the views regarding the topics with his/her peers. Questions regarding the topic were drafted by the WG members. The drafted questions functioned as a guide helping the discussion flow during the focus group session. At the end of each focus group session, there was a brainstorming session helping to collect the final outcome – a list of the good and bad practices. Work task O2-4: Aggregation into transferable categories for more effective use. The list of good and bad practices was sorted and labelled based on specific categories according to the target groups (e.g. students, academic staff, non-academic staff) and type of practice (pedagogical, technological, psychological and administrative). This categorizing was used as input for the digital case-based tool. Work task O2-5: Creation of a digital case-based roadmap WG 02 worked on the creation of a digital case-based tool in the form of an application placed here https://app.covimo.czu.cz/, which will be used to map the most common issues related to remote learning. It also serves as a guidebook for teachers and non-academic staff on reactions to non-standard situations with limited personal contact. This application aims mainly to educate students and university staff to cope with the transition to online education, help them manage such changes from the pedagogical, technological, psychological and administrative points of view, and create a beneficial, interesting and interactive online learning experience. Anybody from the outside and inside can get ideas and inspiration from this website. An important support material for IO4 Learning materials are the good and bad practices grouped under the psychological aspect. It provides tips about focusing and staying motivated or mentally balanced during online education. Those were significant challenges that not only students were put through. A full description of the application is attached and uploaded to the project’s results platform.
Start Date (dd-mm-yyyy)	01/03/2021
End Date (dd-mm-yyyy)	28/02/2023
Available Languages	English
Available Medias	Dataset, Internet, Interactive Resource, Database
Leading Organisation	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO
Participating Organisations	UNIVERZITET U SARAJEVU, SVEUCILISTE U ZAGREBU, Česká zemědělská univerzita v Praze, UNIVERSITAET FUER BODENKULTUR WIEN, Magyar Agrár és Élettudományi Egyetem, UNIVERZA V LJUBLJANI, SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE, UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA

Output Identification	O3
Output title	Scenarios of reactions in higher education
Output Type	Studies / analysis – Best practice guidelines / report
	The overall objective of IO3 was to compile a sort of scenarios-guidelines about how to proceed under various disastrous circumstances, which might support or block inclusiveness to online education. The measures aiming at minimising the COVID-19 pandemic at various universities within a different national context served as a basis for the scenarios of reactions in higher education. Under the objectives of IO3 set in the Grant Application, the consortium, under the guidance of MATE, prepared a timeline for the tasks and activities to be carried out. Work task WP2-1: compilation of a questionary on reactions to the pandemic The first work task was to work out a questionnaire on the reactions to the pandemic in which the pandemic measures of the countries’ and the institutions’ regulations could be assessed. MATE prepared a questionnaire designed to collect information from higher education institutions and sent it to MATE’s international partner institutions outside Europe in December 2021. Due to a low number of responses, the questionnaire was re-sent also to European and again non-European partners of the consortium partners in January 2022. Fifty-one replies were collected in total. Work task WP2-2: testing of the questionary within the consortium The questionnaire was conducted to collect and assess information about the transition to online education from an organisational aspect during the first COVID-19 pandemic period. The questionnaire aimed to collect information only from higher education management and international offices of universities. On the first level, the questionnaire analysed control measures initiated after the COVID-19 outbreak with an emphasis on how fast they were taken and implemented since the outbreak started – this was examined on the national and institutional levels. Further, there were inquired individual challenges during online education

Description of the intellectual output	(data privacy, student attendance, availability of devices etc.) and particular tools for online education used during the “first period of COVID-19” with the focus on which of these tools did the institutions keep after the first period of COVID-19. The analysis served to explore differences among individual units and to find synergies of functional proven measures and practises across different environments in the participating regions. Altogether it helped to conclude the recommended approaches to tackle future obstacles of this kind. Work task WP2-3: collecting and analysing the feedback from life science universities min. of 20 countries from 4 continents The analysis of the questionnaire data started in March 2022. An online workshop for the consortium members, where the first results of the survey were shared, was in November 2022. After that, MATE compiled the guidelines – scenarios for higher education to minimise adverse effects of a pandemic or similar situation and made them available at first for the consortium partners. The final material was published online on the COVIMO website in January 2023 after the consortium approved it. Work task WP2-4: compiling an online study on best practice guidelines A full description of the analysis with the recommended scenarios of reactions is attached and uploaded to the project’s results platform. Work task WP2-5: sharing the outdoor Covid-safe best practice on a webinar MATE developed a project of International Students Community Garden which emerged as a student-based initiative to ease the lockdown’s physical, emotional and economic impacts by creating an agroecological garden – SZIA. At SZIA, students sustainably grow vegetables, completely organic, without fertilizers. The project has become a success and, since then, has grown into a complex programme at the university. Other results of this activity had an environmental character (clean, low impact and biological agricultural practices, use of compost for a living soil), economic character (in 7 months, the garden produced about 900 kg of food with a commercial value of approximately 3000 EUR) and social character (connection with the local community, broadcast in the local newspaper, recognition of the university). A separate webinar on this outdoor COVID-19-safe best practice, the international students’ community garden, was held in May 2022 for consortium partners. Work task WP2-6: finding min. 1 country per continent where this practice can be taken over Students from abroad who travel back to their home countries can apply the learnt knowledge there and establish their organic farms as a private source of income). MATE even introduced an international internship programme built on this idea for non-EU participants. Currently, MATE has introduced this international internship programme with SZIA AgroEcological Garden to the COVIMO consortium as an easily adoptable solution. A full description of the SZIA garden with recommendations on how to set it up is attached and uploaded to the project’s results platform.
Start Date (dd-mm-yyyy)	01/03/2021
End Date (dd-mm-yyyy)	28/02/2023
Available Languages	English
Available Medias	Internet, Dataset, Interactive Resource
Leading Organisation	Magyar Agrár és Élettudományi Egyetem
Participating Organisations	UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA, SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE, UNIVERZA V LJUBLJANI, SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO, UNIVERSITAET FUER BODENKULTUR WIEN, UNIVERZITET U SARAJEVU, Česká zemědělská univerzita v Praze, SVEUCILISTE U ZAGREBU

Output Identification	O4
Output title	Learning materials facilitating inclusion into on-line education
Output Type	Learning / teaching / training material – Toolkit
	The outcomes of IO4 draw from the results of the IO1 (Virtual Mobility Tools), IO2 (International manual of examples of transferable good practices), IO3 (Scenarios of reactions in higher education) and on a separate analysis done by the Working Group in IO4. The overall aim was to create learning materials for students and staff challenged by the unprecedented transition to the online environment and had certain difficulties adapting to the new situation. In order to attain this, the Working Group IO4 prepared a number of work tasks. Work task IO4-1: Mapping problems encountered by students and staff when starting online education The WG members mapped the problems encountered by students and staff when starting online education, mostly by searching for problems/barriers related to the use of new educational practices. The first step under this task was a literature review of publications and scientific articles produced by not only the consortium universities. Each university representative in the WG analysed the literature on problems related to transitioning to online education at HEIs. The second step was an analysis of each university’s primary data. Several of the consortium universities collected their own data from questionnaires or interviews with their students and staff related to the transition to online education at the beginning of the COVID-19 pandemic. Moreover, a number of nationwide surveys on these related topics were done in many of the consortium countries. The WG created a collection of relevant publications and, based on the analysis of the institutional or national research, identified and classified the main problems encountered by students and staff at each partner university and country. Work task IO4-2: Crosschecking the problems against already existing examples of best

Description of the intellectual output	practices and scenarios of reactions As the online environment is a very dynamic field, the WG members crosschecked if there were available solutions already in place. They analysed the results of the IO2 focus group sessions and identified the problems that already had a solution in the form of a best practice. Work task IO4-3: Creation of learning materials for students and staff that facilitate inclusion into online education The Working Group decided to create two learning modules in LMS Moodle, as this platform is the only one used by all of the consortium universities. One module focuses on supporting academic staff (lecturers), and the second one on supporting students. Each module is a customisable toolkit for each of the nine consortium universities. The module for staff helps lecturers in the didactics of teaching and testing in a virtual setting. They have some theoretical base connected with the practical experiences of lecturers, which are based on the IO2 outcomes and linked with the IO2 COVIMO app. The module that focuses on students helps them to orientate in the online tools used at each university, provides tips for a more effective way of studying online (based on the IO2 outcomes) and allows them to experiment and provide feedback on the virtual mobility tools developed in the IO1 part of the project. Both modules help to ensure inclusivity in a virtual setting and provide tips for working with online platforms (such as LMS Moodle or MS Teams). Work task IO4-4: Verifying the transferability of the learning materials (How do students and staff from different universities perceive the designed learning materials?) The consortium partners organised focus group sessions at each university targeted at collecting feedback on the two developed Moodle modules. The gathered feedback pointed out that the virtual mobility tools, such as avatar-based learning rooms, 3D models, virtual labs, and virtual field trips, were perceived as great additions to courses by both lecturers and students, especially at the universities of the partner countries. The feedback suggested that the module for students also addresses legal aspects of online teaching and examinations. The modules were improved based on the feedback. Learning Materials for Teaching in a Virtual Setting: https://projekty2.czu.cz/course/view.php?id=862 Learning Materials for Studying in a Virtual Setting: https://projekty2.czu.cz/course/view.php?id=881 Both of the modules have free and unlimited access. A full description of the Learning Materials with the open-access links is attached and uploaded to the project's results platform. The outcome is in the form of a PDF document with the links to the two modules and a link to export files that allow any university to import them into their LMS Moodle system and finetune or customise it according to their context.
Start Date (dd-mm-yyyy)	01/03/2021
End Date (dd-mm-yyyy)	28/02/2023
Available Languages	English
Available Medias	Database, Interactive Resource, Internet
Leading Organisation	Česká zemědělská univerzita v Praze
Participating Organisations	UNIVERZA V LJUBLJANI, UNIVERZITET U SARAJEVU, UNIVERSITAET FUER BODENKULTUR WIEN, SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO, SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE, SVEUCILISTE U ZAGREBU, Magyar Agrár és Élettudományi Egyetem, UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA

5.3. Multiplier Events

This section doesn't apply for this project

5.4. Learning/Teaching/Training Activities

This section doesn't apply for this project

5.5. Participants in Learning/Teaching/Training Activities

5.5.1. Participants' Profile

For each activity, please describe the background and profile of the participants involved in the learning, teaching or training activities. How were the participants selected, prepared and supported? If relevant, please describe any practical arrangement set for the participants, including training, teaching or learning agreements.

"Learning/Teaching/Training Activities" were not applied for in the Grant Application. Therefore this question does not apply to our project.

5.5.2. Participants' Recognition

Did your project make use of European instruments like Europass, ECVET, Youthpass, ECTS etc. or any national instruments/certificates for recognition or validation of the learning outcomes of the participants in the learning, teaching or training activities?
No
If you have used other recognition/validation instruments, please describe them:

"Learning/Teaching/Training Activities" were not applied for in the Grant Application. Therefore this question does not apply to our project.

5.5.3. Intensive Study Programmes - Invited teachers

This section doesn't apply for this project

6. Follow-up

6.1. Impact

What was the project's impact on the participants, participating organisations, target groups and other relevant stakeholders?

The main aim was to decrease the number of students and staff facing obstacles disabling their involvement in online education. This general aim was covered but largely thanks to the overall progress in digitalisation. The project identified the barriers to online education and, thus, the potentially most excluded groups. Thanks to the organisation of focus groups that involved students, staff, academics, non-academics, and the university leadership, the universities participating in the project gained valuable insight into the transition process to online studies. The best practice and knowledge sharing inside the universities and also within the network contributed to an overall advancement in the approach to online education and education in general. Specifically, for instance, in the Czech Republic, CZU will prepare two online (virtual) study programmes using the experience from the COVIMO project (their development will be supported by other funding).

Although it was generally assumed that programme countries and their HEIs are ready for the transition to online teaching and virtual mobility, this assumption was not entirely true, and many new measures needed to be implemented at participating organisations. Two partners universities, the State Agrarian University of Moldova (SAUM), which became the Technical University of Moldova (TUM) during the project and the University of Sarajevo (UNSA), had declared before the beginning of the project that they were facing much wider challenges, including those from the fields of infrastructural readiness and knowledge base (key competencies, including digital). Both universities concluded that the project helped to push for more digitalisation in academia and will raise the attractiveness of those study programmes that will fully implement the developed virtual mobility tools. The partner universities pointed out that the results of the project may function as a catalyst of change for the relevant stakeholders, such as ministries of education or regional development (who showed some reluctance about virtual/distance learning until the time of COVID-19) by putting an emphasis on the urgent need to cover the area of online education infrastructural readiness.

Students, as the key target group, were offered tailor-made tools that facilitate virtual mobility and remote teaching also in the courses which are not traditionally considered transferable to an online form. With the development of virtual and augmented reality, students are able to gain knowledge and skills in a virtual setting despite adverse circumstances such as a pandemic that would otherwise prevent them from obtaining an education.

Involved academics have been provided with guidelines and good practices on how to approach the transition of their courses and modules to the online environment, even if these courses include significant practical training components. The need to transition to a virtual setting (not only with the help of this project) triggered a change in the overall approach of academics to teaching and examining students. The recommendations provided to lecturers (e.g. to restructure the time in lectures, refrain from multichoice testing, transform and integrate new virtual elements, etc.) pose a significant challenge and extra work for lecturers. The more they share the tools, feedback and best practices, the easier it might become, which is the nature of this project and, thus, a contribution to increasing their digital competencies and confidence.

In the long term, university leadership should benefit from the developed scenarios or reactions to similar widespread disturbances in the educational environment. We believe that the outcomes of the project provided more useful information and will serve as recommendations and possible scenarios on how to deal with a crisis situation. We didn’t have to wait long. During the second year of this project, the Hungarian university had to send students home and restart online classes in winter due to the energy crisis. The outcomes of the project are now available to other institutions in a similar situation.

What was the impact of the project at the local, regional, European and/or international levels? Please provide qualitative and quantitative indicators.

On the local level, the project has had a significant impact on the cooperating universities involved in the project, as they have been able to reflect and support the transition towards new forms of online learning in response to the COVID-19 pandemic. The members of the project have been affected first-hand by the tasks they performed for the project. As employees of their institutions, they are able to influence some structures and processes in their established environment. The project has also provided the universities with a set of best practices for online education, learning and training materials, and virtual mobility tools that will benefit staff and students in the life sciences and related disciplines. Based on the experience with the project, the universities are more prepared to develop online study programmes (e.g. two are now planned at CZU Prague).

The impact of the project extends beyond the local level to the regional level, as the universities involved in the project shared their experiences and best practices with other institutions in their respective regions. This may lead to the adoption of new forms of online learning in the life sciences and related disciplines, which could benefit students and staff across the region. The regional impact targeted the Danube macro-region, where the participating universities operate. In this regard, the project contributed to the EU Strategy for the Danube region. There is ongoing progress in several of the areas that this project targeted. IT companies and university start-ups can still become part of the innovations related to the area of online education and therefore obtain a more competitive position in the market. There has already been involved a young start-up in Austria called AREEKA, the BOKU student café TÜWI or the Hungarian company SkillDict focused on e-learning solutions. Moreover, the virtual environment is more emphasized in newly approved university strategies. For example, the specific goal of the CZU Strategic Plan after 2021 is to “Continue to support various ways of forming transferable competencies in students and a combination of face-to-face and distance learning methods in individual study programs. In these activities, primarily use the possibilities of the most modern information and communication technologies and available virtual reality.” This project influenced the strategy as it was prepared and written at the time of the project.

On the national level, most universities involved in distance learning, online learning and virtual mobility were inspired by the outcomes of the project shared during national events. Project outcomes should also support relevant ministerial bodies and accreditation agencies in their decision-making and development of strategies where the distant form of teaching, virtual mobility and online teaching are taken into consideration.

The project has the potential to impact higher education practices in Europe, as the universities involved in the project may share their experiences and best practices with other institutions and via other university networks across Europe (e.g. Euroleague for Life Sciences). This could lead to the development of innovative approaches to online education in the life sciences and related disciplines that could have broader implications for higher education and research in Europe.

In wider terms, on the international level, the project contributes to the increase of mobilities in the case when physical mobility is not possible. The various scenarios and the best practices identified and shared within the project contribute to innovation and allow the participants to act as role models. Thanks to the involvement of specific partners from disadvantaged regions, the best practices are not limited to the region of the partner universities but can be used internationally. The impact of the project may extend beyond Europe to the international level, as the best practices, learning and training materials, and virtual mobility tools developed through the project may be shared with institutions around the world. This could lead to the adoption of new forms of online learning in the life sciences and related disciplines on a global scale, which could benefit students and staff worldwide. Thanks to the involvement of specific partners from disadvantaged regions, the best practices can be utilised internationally and are not limited to the region of the partner universities.

However, measuring impact on a European and/or international level is quite challenging without specific indicators, which were not included in the project. So, we remain very cautious when it comes to drawing conclusions about the impact of our project on these levels.

How did the project contribute to the achievement of the most relevant priorities as indicated in the description section?

The main priority of the project was: Innovative practices in a digital era. The other two were: Building inclusive higher education systems; and Promoting internationalisation.

Innovative practices in a digital era:
The project focused on creating a forum of cooperating universities to reflect on the transition towards new forms of online learning in the life sciences field, particularly in response to the COVID-19 pandemic. It generated learning and training materials, scenarios, and best practices that can be used by universities in the future whenever they face similar restrictions. The project tested various elements of virtual mobility, including virtual and augmented reality, and developed an experimental laboratory designed to test new teaching and learning practices in the virtual space. Through these intellectual outputs, the project established innovative digital practices at all the partner universities.

Building inclusive higher education systems:
The project contributed to making education more accessible, flexible, and inclusive, regardless of students’ location or background. It recognized the need for new approaches to providing quality education to students without requiring them to be physically present in the classroom or laboratory, thus overcoming geographical and physical barriers. The project also developed learning and training materials, scenarios, and best practices that can be used by universities in the future whenever they face similar restrictions as those posed by the COVID-19 pandemic, ensuring that education remains accessible to all students, regardless of the circumstances. Moreover, the project developed an experimental laboratory and virtual mobility tools, enabling students to access training and learning resources that were previously inaccessible, particularly for partners with limited access to such tools and know-how.

Promoting internationalisation:

The forum which was created by this project is clearly international, with universities from different national contexts cooperating together in providing a platform for sharing best practices, exchanging ideas, supporting each other in implementing online education and virtual mobility, and increasing the possibilities for student and staff mobility.

The project contributed to educational collaboration among the partner universities in the network of Central and South-Eastern life science universities, which allowed cross-cultural learning, building relationships between institutions from different countries and testing the developed tools for an international study programme (e.g. the Danube AgriFood Master joint master programme). Several students and staff members of all the partner universities were allowed to test the virtual mobility activities and gain experience in using virtual mobility tools for international collaboration and learning. Through this, the project allowed students to collaborate and learn from peers from different national contexts, contributed to intercultural understanding and helped students to gain a global perspective. Another example is the SZIA agroecological garden, where a diverse group of students (various nationalities, ages, faculties, social status and economic environments) involved in the project was able to learn innovative agroecological practices, develop leadership skills, alleviate the stress caused by the uncertainty of the circumstances, increase their awareness about food and environmental issues, diversify their diet and save money in food consumption, among other important lessons.

The project identified that international and or first-year students had the most difficulties in coping with the transition to an online education environment. Therefore, specific learning materials were developed to target such students. In this sense, it helped promote cultural awareness and sensitivity, increasing accessibility and inclusivity.

6.2. Dissemination and Use of Project Results

To whom did you disseminate the project results inside and outside your partnership? Please define in particular your targeted audience(s) at local/regional/national/EU level/international and explain your choices.

The project's aims and results have been disseminated inside and outside our partnership. Internal dissemination was carried out by all of the partner universities. External dissemination was carried out by most of the universities through the dissemination channels and activities described below, where also other target audiences outside the consortium were involved.

Target groups for dissemination inside the partnership were identical to the ones identified in the application form. The target groups were addressed repeatedly during the project with information updated on the website. Several focus groups at the individual universities were conducted with students as well as academic staff, and non-academic workers connected to internationalisation and leadership of universities. Only the start-up incubator of the university in Vienna (BOKU) was targeted in connection to the development of the virtual environments coordinated at BOKU. Moreover, students were invited to test and provide feedback for improvement.

Through the dissemination activities described below, also target groups outside the partnership were addressed. The project website was complemented by the application https://app.covimo.czu.cz/ and disseminated. The aim of this app is mainly to educate students and university staff to cope with the transition to online education and to help them manage such changes from the pedagogical, technological, psychological and administrative points of view and to create beneficial, interesting and interactive online learning. Anybody from the outside and inside can get ideas and inspiration from the website and app.

At the local level, the results of the project were shared internally and with other universities that each of the partners cooperate with locally. For instance, in Czechia, CZU presented the results to the consortium of universities in Prague, cooperating together under the Study in Prague initiative. In this initiative, sharing best practices on different topics takes place once a month.

At the national level, each partner university shared the information within their national university networks. For instance, in Czechia, CZU presented the results during a best practice sharing session of the KA2 projects organised by the Czech National Agency for International Education and Research. The presentation was mainly addressed to the visiting higher education institutions that plan to apply for a KA2 project.

Universities from partner countries (UNSA and TUM) pointed out that the results of the project may function as a catalyst of change for the relevant stakeholders, such as ministries of education or regional development (who showed some reluctance about virtual/distance learning until the time of COVID-19). When disseminating information about the project, the universities from partner countries stressed the need for improving infrastructure for online education.

At the EU level, the COVIMO project was presented at several conferences and forums of universities that are active in the life sciences field. The project was discussed and had a poster at the CASEE conference at CZU in June 2022. The CASEE network (a chapter of ICA) gathers the universities of the Danube region that are focused on agriculture and life

sciences. There are several CASEE universities that are not part of the project (e.g. Agricultural University of Tirana, Albania), but can largely benefit from the results. The project was presented as one of the CASEE projects at the 12th ICA Rectors and Deans Forum 2022 in Lithuania, where the Vice-Rector of CZU spoke about the project and the cooperation of the universities in the CASEE network. During the IROICA pre-conference in Prague, CZU had an active workshop session with IRO members of several European universities. About 40 participants split into groups actively engaged in group discussions over the pros and cons of online teaching, the perks of legislative measures and the vision for virtual mobilities. IROICA is a network of all the International Relations Officers of the Association of European Life Science Universities (ICA). It is a great platform to openly discuss and share the results of the project. The COVIMO poster was also part of the Euroleague for Life Sciences (ELLS) conference organised by CZU in September 2022. ELLS is a network of leading universities cooperating in life sciences, which has applied in 2023 to become a European University Alliance. This EUI proposal called LIFE: Euroleague for Life Sciences is planning a Work Package on diversity, inclusion and European values, where several outcomes of this project can be used.

At the international level, we chose to present the project to the international Partners of ELLS from Isreal (Hebrew University of Jerusalem) and New Zealand (Lincoln University). Members of the CZU IRO also prepared promotional materials of this key international project that were presented at the NAFSA conference in the US in 2022.

What kind of dissemination activities did your partnership carry out and through which channels? Please also provide information on the feedback received.

A dissemination plan ensured the availability of project results. Dissemination activities were implemented in accordance with the plan. The coordination of dissemination activities was carried out mainly by SUA in Nitra and CZU Prague. The following sub-tasks were planned and implemented:

1) Project website
The project website was created for the purposes of dissemination within and outside the partnership. The project website is live at https://covimo.czu.cz/. The content of the website was structured based on individual outputs of the project to make the structure simple and clear.

2)Final conference in Nitra
SUA Nitra was the main coordinator of dissemination activities and was organizing dissemination group meetings before the final conference at the end of the project in Nitra, Slovakia.

In January 2023, the project's final conference was held in the AgroBioTech Research Center in Nitra, Slovakia, with 40 participants from the nine different countries. It was a two-day conference focused on the results of the project. Each project coordinator was responsible for an active working session allowing us to test, discuss and improve the project outcomes. A podcast was recorded during the conference, and a promotional video was created. The participants also enjoyed networking activities as this was the first time the people met in person.

3) Info meetings for national agencies and ministerial bodies
The COVIMO project was visible at various info meetings of the universities (e.g. open days). CZU Prague included the project in its open-day presentation with a poster under the section of international projects. SUA promoted the project activities at the Faculty of Biotechnology and Food Sciences. SAUM presented the project on online "Information Day" on September 15, 2021. In January 2021, CZU Prague presented the COVIMO project as a good example project at a seminar for new KA2 project applicants of the Czech National Agency for International Education and Research. Approximately 30 representatives of other Czech universities participated in the information seminar of the KA2 2023 call and were informed about the COVIMO project. Moreover, a webinar about the outdoor COVID-19-safe best practice called the SZIA AgroEcological Garden was organised by MATE. It was followed by an interview with the project coordinator in the online magazine of the Hungarian National Agency (Tempus Public Foundation, which is under the Hungarian Government).

4) Conferences
The COVIMO project was active at several conferences. SAUM promoted the project activities at two international conferences; “International Week” under the title “Before, during and after COVID-19 Lessons: from Teachers to International Relations Office” took place at the Mediterranean University of Greece in October 2021, and “Perspectives and results of the Republic of Moldova in European Integration”, took place in October 2021. The project had a poster at the CASEE conference at CZU Prague in June 2022. During the IROICA pre-conference in Prague, CZU Prague had an active workshop session with IRO members of several European universities. About 40 participants split into groups actively engaged in group discussions over the pros and cons of online teaching, the perks of legislative measures and the vision for virtual mobilities. The COVIMO poster was part of the ELLS conference organised by CZU Prague in September 2022. The COVIMO project was presented as one of the CASEE projects at the 12th ICA Rectors and Deans Forum 2022 in Lithuania, where the Vice-Rector of CZU spoke about the project and the cooperation of the universities in the CASEE network.

5) Partnership with the traditional media

An article in the local newspaper was prepared for the SUA's university newspaper Polnohospodár. The article summarised findings from in-depth interviews organised by SUA in Nitra. CZU Prague printed an interview with one of the coordinators of the project in the university's quarterly magazine called Živá univerzita.

6) Modern media and social media
Dissemination through social media has been carried out to emphasise the project activities and share information on a regular basis through the universities' individual social media accounts. UNIZG has created a YouTube channel which promotes the project and the project partners. The YT channel is called: "Covimo Opportunity Window", and offers five promotional videos: 1) an introduction to the project, 2) an introduction to the project partners, 3) a video from the final conference, 4) a video about the virtual mobility tools, and 5) a video-podcast from the project coordinators.

7) Brochures
The flyer, poster and brochures developed by the dissemination group explain the focus of the project and show the consortium members.

More specific dissemination activities with links to the websites of the individual partners can be found in the attachment.

Erasmus+ promotes an open access requirement for all materials produced through its projects. In case your project has produced intellectual outputs/tangible deliverables, please describe if and how you have promoted free access to them by the public. In case a limitation was imposed for the use of the open licence, please specify the reasons, extent and nature of this limitation.

The project took various steps to promote free access to produced intellectual outputs, which included online resources, applications, and modules. These efforts aimed to promote free knowledge approach and enable greater access and equity in education, research, and innovation.

The first step we took to make the results of our project publicly available was to create a website. It was designed to be informative and user-friendly, with clear and concise information about the project, its goals, and the results we achieved. To ensure that as many people have seen the results of our project as possible, we promoted the website through various channels. We shared the website link on social media platforms, highlighting the results of the project. Each of the universities also promoted the project on its own official website.

The virtual mobility tools developed in our project have provided students and staff with virtual access to advanced laboratory equipment and new virtual learning environments. These virtual mobility tools have helped to improve intercultural understanding and the exchange of knowledge. The socializing of students has been arranged via Online Student Café, which was accessible by anyone via a website browser or VR glasses. This resource aimed to facilitate student engagement and collaboration, promoting a sense of community among learners.

Wood Exploration and Chainsaw Training Room was accessed only for teaching purposes with permission by a BOKU moderator via website browser or VR glasses. The rationale for this limitation is to secure a "clean" learning environment only for particular students at a time. The moderator at BOKU will manage access to the tool for any lecturer that wishes to use it exclusively for his/her educational purposes (without other users accessing it during the lecture). The room has three break-out rooms that allow dividing students into smaller groups. Moreover, the main room is also designed as a training tool to enable students to acquire the necessary skills and knowledge to operate a chainsaw safely, effectively and responsibly.

The learning materials that have been created from LMS Moodle have been set up for host access, allowing any person interested in going through the modules to log in as a host with no limitations. Additionally, the results shared at the Erasmus+ Project Results Platform also have a link to an export file for LMS Moodle that allows administrators to import the module into their institution's Moodle platform and run it with their students or staff.

How have you ensured that the project's results will remain available and be used by others?

Most of the final results and outcomes of the project are publicly available on the internet, where anyone can approach them and work with them in the online environment or download them and upload them into their environment. The foundation of the results is the official website of the COVIMO project: https://covimo.czu.cz/en, which is interlinked with the Application of the Manual of good and bad practices and a sub web for the virtual mobility tools. There is also uploaded a downloadable module for Moodle enabling students and staff to adapt to online education. The virtual mobility tools are accessible via the website and Moodle.

Further on, all the materials were uploaded to the Erasmus+ Project Results Platform.

To keep the website and the results of our project up-to-date, we will regularly update the website with new information

even after the project. We will also monitor the website for any technical issues and ensure that it is accessible at all times.

It is important to acknowledge that even if a project's results are made available and promoted, there is no guarantee that others will choose to use them. Ultimately, the decision to use the project's results is up to the individual or organization interested in utilizing them. However, we can and we will support it by promoting the project and keeping it openly accessible as described above.

The CASEE network will serve as a platform for the project's follow-up activities. We plan to continue our collaboration with other CASEE members to exchange best practices, disseminate project outcomes, and explore opportunities for future partnerships. Our project's success will also be presented and discussed at the annual CASEE conference, where we will have the chance to share our experiences and lessons learned with other educators and researchers from the region. By using this network, we aim to sustain the project's impact beyond its duration and ensure its long-term benefits for the participating institutions and their stakeholders.

How did you see the potential to use this project's approach in other projects on a larger scale and/or in a different field or area?

The project has great potential to be used further by the consortium universities themselves and also by their partner universities. In the context of the Czech Republic, the use of online learning is partly limited by the accreditation agency. In this sense, the project helped to intensify the work on accrediting new or re-accrediting current study programmes to a distant form, which will allow more freedom in the use of virtual mobility tools and virtual environments. CZU Prague is preparing two international, English taught and fully online study programmes (one at the Faculty of Tropical AgriSciences and one at the Faculty of Economics and Management) that will take advantage of the results of the project. Moreover, the results of this project were an inspiration for other projects focused on creating learning materials (e.g. NPO Distanční výuka).

Apart from cooperating under the CASEE network (The ICA Regional Network for Central and South Eastern Europe), a network that supports the development of the Danube region in a sustainable, ecological and economical way, three of the consortium universities (CZU, BOKU and SGGW) are also members of the ELLS network (Euroleague for Life Sciences). The ELLS universities share courses that are mutually available online and have cooperated in the domain of e-learning for several years. The members of the ELLS E-learning Support Team who offer e-learning services (e.g. video conferencing support, support of summer schools, e-learning management system, teacher training, etc.) were informed about the results of the COVIMO project and how they can benefit life science universities.

In 2023, the ELLS universities submitted a joint proposal for the call for new alliances formed under the European Universities Initiative. One of the work packages is focused on Diversity, inclusion and other European values. CZU Prague will lead this work package and can be inspired by the approach of the COVIMO project.

The results of the project will also serve as inspiration for the Horizon Europe (Horizon-Widera) project called BETTER Life (Bringing Excellence to Transformative Socially Engaged Research in Life Sciences through Integrated Digital Centers), which CZU Prague coordinates. The project aims to establish an EU digital centre of excellence for socially engaged research in life sciences. The objective will be partly fulfilled with the help of digital tool kits. These tool kits will be inspired by the solutions developed in the COVIMO project.

6.3. Sustainability

What are the activities and results that will be maintained after the end of the EU funding, and how will you ensure the resources needed to sustain them?

Some groundbreaking discoveries in the area of virtual mobilities helped to expand educational opportunities for students and staff of the partner universities. The partners expressed a desire to further combine resources, expertise, and facilities to continue pursuing the common goals of this project and address the complex challenges that are still ahead in this area. As all the partner universities are members of the CASEE network, the coordinator submitted an application for the CASEE fund for incentives supported by Letters of Intent from all the nine project universities. The application was successful, and therefore, several of the project activities and results will be further developed after the end of the KA2 project period.

The consortium of the project agreed to take turns in moderating the web application (app.covimo.czu.cz) created as part of the IO2 result. It will thus be possible to add new good or bad practices and to comment on them. This was a necessary commitment made by SGGW, the coordinator of this intellectual output, who will be the first university to

moderate the app. The organisers at the SZIA agroecological garden at MATE have developed an internship programme that attracts and employs non-EU student-interns to work at the SZIA garden, obtain experiences and hopefully establish a similar initiative at their home institution. Upon completing the internship and leaving back home, the interns are equipped with the guidelines to set up such a project in their home country or university. The learning materials created by CZU are currently open to any student or staff member interested in fulfilling or running it. They will be maintained to ensure that they stay up to date if universities are forced to switch to fully online education again. If such a situation occurs, the Moodle modules will be promoted to students (as an introductory course to online studies) and staff members (as a didactical guide for teaching in an online environment). The virtual mobility tools were a major part of this project. As mentioned in the report, they were tested by students and lecturers not only of the Danube AgriFood Master programme. Further development of these tools and their full implementation into international study programmes will continue under the follow-up project of the CASEE network.

The life sciences universities of the CASEE network will explore further possibilities of using virtual reality (VR) and augmented reality (AR) tools and other digital tools (e.g. use of 360° images) in their study programmes. Here are the areas that the project will build on and focus on:

1) Simulation and visualization of complex scientific concepts: 3D objects, VR and AR tools as well as 360° images can help students visualize and understand complex scientific concepts by creating immersive and interactive learning experiences. For instance, lecturers can use VR tools to explain concepts in landscape architecture by simulating the differences between various landscapes or simulating different environmental scenarios, such as climate change or pollution. This technology can help students and researchers better understand the impact of these factors on the natural world.

The partners will continue gathering and sharing best practices in the current use of the production of 3D objects and the associated tools, aiming to develop new tools based on the needs of students and academics at CASEE universities and try to implement them into the study programmes.

2) Laboratory training: VR and AR can be used to simulate laboratory experiments, which can help students develop practical skills and techniques in a safe and controlled environment. AR can also be used to overlay virtual information onto real laboratory equipment, making it easier for students to understand how to use and operate the equipment.

The AR tools already developed by BOKU in the COVIMO project will be further tested by students and academics and fully implemented into other specific study programmes.

3) Field research and data analysis: 360° images, VR and AR can be used to create virtual environments that mimic real-life ecosystems or scientific phenomena, allowing students to conduct virtual field research. Moreover, these tools can be used to take students on virtual field trips to remote or inaccessible locations (e.g. polar regions or deep sea habitats). This can provide students with a unique learning experience that would otherwise be unavailable.

The aim would be to develop guidelines for using 360° images and other tools for teaching purposes.

The current project has proven to be an effective means of achieving mutual benefits and contributing to the advancement of higher education.

7. Budget

this section gives a detailed overview of the final amount of the EU grant you request;

7.1. Budget Summary

OID of the Organisation	Name of the Organisation	Country of the Organisation	Project Management and Implementation	Transnational Project Meetings	Intellectual Outputs	Multiplier Events	Learning/Teaching/Training Activities				Special Needs Support	Exceptional Costs	Exceptional Cost Guarantee	Total (Calculated)
							Travel	Individual Support	Linguistic Support	Exceptional Costs for Expensive Travel				
E10209207	Česká zemědělská univerzita v Praze	Czech Republic	12,000.00	1,150.00	28,725.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41,875.00
E10158903	UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA	Moldova (Republic of)	6,000.00	0.00	15,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21,700.00
E10186799	UNIVERZITET U SARAJEVU	Bosnia and Herzegovina	6,000.00	1,150.00	15,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22,850.00
E10197967	UNIVERSITATEA TEHNICA A MOLDOVEI	Moldova (Republic of)	0.00	1,150.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,150.00
E10208838	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Poland	6,000.00	1,150.00	23,336.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30,486.00
E10208910	SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE	Slovakia	6,000.00	0.00	15,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21,700.00
E10209243	UNIVERZA V LJUBLJANI	Slovenia	6,000.00	1,150.00	29,052.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36,202.00
E10209270	SVEUCILISTE U ZAGREBU	Croatia	6,000.00	1,150.00	15,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22,850.00
E10209455	UNIVERSITAET FUER BODENKULTUR WIEN	Austria	6,000.00	1,150.00	50,660.00	0.00	0.00	0.00	0.00	0.00	0.00	15,000.00	0.00	72,810.00
E10266721	Magyar Agrár és Élettudományi Egyetem	Hungary	6,000.00	1,150.00	17,265.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24,415.00
Total			60,000.00	9,200.00	211,838.00	0.00	0.00	0.00	0.00	0.00	0.00	15,000.00	0.00	296,038.00

7.1.1. Project Total Amount

Project Total Amount Reported (Calculated)	296,038.00

Please provide any further comments you may have concerning the above figure.

7.2. Project management and implementation

OID of the Organisation	Role of the Organisation	Name of the Organisation	Country of the Organisation	Total
E10209207	Beneficiary	Česká zemědělská univerzita v Praze	Czech Republic	12,000.00
E10208838	Partner	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Poland	6,000.00
E10186799	Partner	UNIVERZITET U SARAJEVU	Bosnia and Herzegovina	6,000.00
E10209243	Partner	UNIVERZA V LJUBLJANI	Slovenia	6,000.00
E10209270	Partner	SVEUCILISTE U ZAGREBU	Croatia	6,000.00
E10208910	Partner	SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE	Slovakia	6,000.00
E10158903	Partner	UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA	Moldova (Republic of)	6,000.00
E10209455	Partner	UNIVERSITAET FUER BODENKULTUR WIEN	Austria	6,000.00
E10266721	Partner	Magyar Agrár és Élettudományi Egyetem	Hungary	6,000.00
E10197967	Partner	UNIVERSITATEA TEHNICA A MOLDOVEI	Moldova (Republic of)	0.00
			Total	60,000.00

7.3. Transnational Project Meetings

OID of the Sending Organisation	Name of the Organisation	Country of the Organisation	Total No. of Meetings	Total Number of Participants in All Meetings	Distance Band	Grant per participant	Total (Calculated)
E10186799	UNIVERZITET U SARAJEVU	Bosnia and Herzegovina	1	2	100 - 1999 km	575.00	1,150.00
E10197967	UNIVERSITATEA TEHNICA A MOLDOVEI	Moldova (Republic of)	1	2	100 - 1999 km	575.00	1,150.00
E10208838	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Poland	1	2	100 - 1999 km	575.00	1,150.00
E10208910	SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE	Slovakia	1	17	0 - 99 km	0.00	0.00
E10209207	Česká zemědělská univerzita v Praze	Czech Republic	1	3	100 - 1999 km	0.00	0.00
E10209207	Česká zemědělská univerzita v Praze	Czech Republic	1	2	100 - 1999 km	575.00	1,150.00

E10209243	UNIVERZA V LJUBLJANI	Slovenia	1	1	100 - 1999 km	0.00	0.00
E10209243	UNIVERZA V LJUBLJANI	Slovenia	1	2	100 - 1999 km	575.00	1,150.00
E10209270	SVEUCILISTE U ZAGREBU	Croatia	1	2	100 - 1999 km	575.00	1,150.00
E10209455	UNIVERSITAET FUER BODENKULTUR WIEN	Austria	1	2	100 - 1999 km	575.00	1,150.00
E10266721	Magyar Agrár és Élettudományi Egyetem	Hungary	1	3	100 - 1999 km	0.00	0.00
E10266721	Magyar Agrár és Élettudományi Egyetem	Hungary	1	2	100 - 1999 km	575.00	1,150.00
						Total	9,200.00

7.4. Intellectual Outputs

OID of the Organisation	Name of the Organisation	Country of the Organisation	Output Identification	Category of Staff	No. Of Working Days	Grant per Day	Total (Calculated)
E10209207	Česká zemědělská univerzita v Praze	Czech Republic	O1	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	38	137.00	5,206.00
				Technicians	27	102.00	2,754.00
				Administrative support staff	0	0.00	0.00
E10158903	UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA	Moldova (Republic of)	O3	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	5	55.00	275.00
				Administrative support staff	0	0.00	0.00
E10209243	UNIVERZA V LJUBLJANI	Slovenia	O4	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	22	137.00	3,014.00
				Technicians	63	102.00	6,426.00
				Administrative support staff	0	0.00	0.00
E10158903	UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA	Moldova (Republic of)	O1	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	60	74.00	4,440.00
				Technicians	25	55.00	1,375.00
				Administrative support staff	0	0.00	0.00
E10208910	SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V	Slovakia	O1	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	60	74.00	4,440.00

				Technicians	25	55.00	1,375.00
				Administrative support staff	0	0.00	0.00
E10186799	UNIVERZITET U SARAJEVU	Bosnia and Herzegovina	O2	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	0	0.00	0.00
				Administrative support staff	0	0.00	0.00
E10209270	SVEUCILISTE U ZAGREBU	Croatia	O2	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	0	0.00	0.00
				Administrative support staff	0	0.00	0.00
E10208910	SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE	Slovakia	O3	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	5	55.00	275.00
				Administrative support staff	0	0.00	0.00
E10209243	UNIVERZA V LJUBLJANI	Slovenia	O3	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	13	137.00	1,781.00
				Technicians	28	102.00	2,856.00
				Administrative support staff	0	0.00	0.00
E10186799	UNIVERZITET U SARAJEVU	Bosnia and Herzegovina	O1	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	60	74.00	4,440.00
				Technicians	25	55.00	1,375.00
				Administrative support staff	0	0.00	0.00
E10208838	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Poland	O3	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	5	55.00	275.00
				Administrative support staff	0	0.00	0.00
E10186799	UNIVERZITET U SARAJEVU	Bosnia and Herzegovina	O4	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	55	74.00	4,070.00

				Technicians	20	55.00	1,100.00
				Administrative support staff	0	0.00	0.00
E10209270	SVEUCILISTE U ZAGREBU	Croatia	O1	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	60	74.00	4,440.00
				Technicians	25	55.00	1,375.00
				Administrative support staff	0	0.00	0.00
E10209455	UNIVERSITAET FUER BODENKULTUR WIEN	Austria	O1	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	60	241.00	14,460.00
				Technicians	40	190.00	7,600.00
				Administrative support staff	0	0.00	0.00
E10209207	Česká zemědělská univerzita v Praze	Czech Republic	O2	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	31	137.00	4,247.00
				Technicians	0	0.00	0.00
				Administrative support staff	0	0.00	0.00
E10209455	UNIVERSITAET FUER BODENKULTUR WIEN	Austria	O2	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	241.00	7,230.00
				Technicians	0	0.00	0.00
				Administrative support staff	0	0.00	0.00
E10209455	UNIVERSITAET FUER BODENKULTUR WIEN	Austria	O3	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	241.00	7,230.00
				Technicians	5	190.00	950.00
				Administrative support staff	0	0.00	0.00
E10209455	UNIVERSITAET FUER BODENKULTUR WIEN	Austria	O4	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	50	241.00	12,050.00
				Technicians	6	190.00	1,140.00
				Administrative support staff	0	0.00	0.00
E10266721	Magyar Agrár és Élettudományi Egyetem	Hungary	O1	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	60	74.00	4,440.00

				Technicians	25	55.00	1,375.00
				Administrative support staff	0	0.00	0.00
E10266721	Magyar Agrár és Élettudományi Egyetem	Hungary	O2	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	0	0.00	0.00
				Administrative support staff	0	0.00	0.00
E10208838	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Poland	O4	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	55	74.00	4,070.00
				Technicians	20	55.00	1,100.00
				Administrative support staff	0	0.00	0.00
E10209243	UNIVERZA V LJUBLJANI	Slovenia	O2	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	137.00	4,110.00
				Technicians	0	0.00	0.00
				Administrative support staff	0	0.00	0.00
E10186799	UNIVERZITET U SARAJEVU	Bosnia and Herzegovina	O3	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	5	55.00	275.00
				Administrative support staff	0	0.00	0.00
E10209207	Česká zemědělská univerzita v Praze	Czech Republic	O3	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	33	137.00	4,521.00
				Technicians	5	102.00	510.00
				Administrative support staff	0	0.00	0.00
E10209270	SVEUCILISTE U ZAGREBU	Croatia	O3	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	5	55.00	275.00
				Administrative support staff	0	0.00	0.00
E10208910	SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE	Slovakia	O4	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	55	74.00	4,070.00

				Technicians	20	55.00	1,100.00
				Administrative support staff	0	0.00	0.00
E10209207	Česká zemědělská univerzita v Praze	Czech Republic	O4	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	63	137.00	8,631.00
				Technicians	28	102.00	2,856.00
				Administrative support staff	0	0.00	0.00
E10209270	SVEUCILISTE U ZAGREBU	Croatia	O4	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	55	74.00	4,070.00
				Technicians	20	55.00	1,100.00
				Administrative support staff	0	0.00	0.00
E10266721	Magyar Agrár és Élettudományi Egyetem	Hungary	O4	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	55	74.00	4,070.00
				Technicians	20	55.00	1,100.00
				Administrative support staff	0	0.00	0.00
E10208838	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Poland	O1	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	60	74.00	4,440.00
				Technicians	25	55.00	1,375.00
				Administrative support staff	0	0.00	0.00
E10208838	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Poland	O2	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	40	74.00	2,960.00
				Technicians	80	55.00	4,400.00
				Administrative support staff	64	39.00	2,496.00
E10208910	SLOVENSKA POLNOHOSPODARSKA UNIVERZITA V NITRE	Slovakia	O2	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	0	0.00	0.00
				Administrative support staff	0	0.00	0.00
E10158903	UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA	Moldova (Republic of)	O4	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	55	74.00	4,070.00

				Technicians	20	55.00	1,100.00
				Administrative support staff	0	0.00	0.00
E10209243	UNIVERZA V LJUBLJANI	Slovenia	O1	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	19	137.00	2,603.00
				Technicians	81	102.00	8,262.00
				Administrative support staff	0	0.00	0.00
E10158903	UNIVERSITATEA AGRARA DE STAT DIN MOLDOVA	Moldova (Republic of)	O2	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	30	74.00	2,220.00
				Technicians	0	0.00	0.00
				Administrative support staff	0	0.00	0.00
E10266721	Magyar Agrár és Élettudományi Egyetem	Hungary	O3	Managers	0	0.00	0.00
				Teachers/Trainers/Researchers/Youth Workers	40	74.00	2,960.00
				Technicians	20	55.00	1,100.00
				Administrative support staff	0	0.00	0.00
				Total	2231		211,838.00

7.5. Multiplier Events

This section doesn't apply for this project

7.6. Learning/Teaching/Training Activities

This section doesn't apply for this project

7.7. Special Needs Support

This section doesn't apply for this project

7.8. Exceptional Costs

ID	OID of the Organisation	Name of the Organisation	Country of the Organisation	Description and Justification	Total Incurred Cost	Grant Requested (75%)
1	E10209455	UNIVERSITAET FUER BODENKULTUR WIEN	Austria	The money for the exceptional costs were used to set up and provide 3D online virtual reality rooms for Intellectual Output 1 (Virtual mobilities coordinated by BOKU) by AREEKA, a young successful start-up in the field of virtual and augmented reality for education in Austria (https://areeka.net/areeka-hubdas-virtuelle-klassenzimmer-der-zukunft/). A set of five virtual rooms was set up and provided for avatar-based social communication and exchange of students & staff. A similar setup has been successfully tested and evaluated at BOKU within the course “Agro-Food Studies” for its functionality and efficiency to provide improved social interaction and exchange as e.g. compared to ZOOM. Second, based on images, one example of a world environment will be fully established virtually in 3D and equipped with interactive elements (videos, quizzes, etc.) for collaborative exchange and learning.	20,000.00	15,000.00

Total	20,000.00	15,000.00

7.9. Exceptional costs - Guarantee

This section doesn't apply for this project

8. Annexes

additional documents that are mandatory for the completion of the report;

Please note that all documents mentioned below need to be attached here before you submit your form online.
Before submitting your report to the National Agency, please check that:

- all necessary information on your project have been encoded in Mobility Tool+
- The report form has been completed using one of the mandatory languages specified in the Grant Agreement.
- you have annexed all the relevant documents:
- the Declaration of Honour signed by the legal representative of the beneficiary organisation.
- the necessary supporting documents as requested in the grant agreement.
- You have saved or printed the copy of the completed form for yourself.
- you have uploaded the relevant results on the Erasmus+ Project Results Platform:

List of uploaded files

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