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Blended Learning in Business Education – Consequences After Covid-19

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Preface

In February 2020, we completed the Erasmus-plus cooperation project within the Strategic Partnerships, "Future-proof your classroom - teaching skills 2030" (<https://teaching2030.eu/>) including seven European partner universities, and one month after we were confronted with the first lockdown. So, it was obvious to take a look at which skills from the first project were used during the pandemic and how teaching and studying will continue after Covid-19. Always interested in future developments of teaching, it was important to consider as many angles and perspectives on the topic as possible. Teachers and students with work experience should have had their say in relation to the university environment, which has changed as a result of the pandemic.

The project with a duration of two years (2022 and 2023) was funded through the bilateral "Scientific & Technological Cooperation", on the Austrian side by the Austrian Academic Exchange Service (ÖAD) and on the North Macedonian side by the Ministry of Education and Science. The joint cooperation took place not only online, but also in person, the results of which you now hold in your hands. We would like to thank the funding parties for this opportunity and wish everyone an insightful read!

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1. Problem frame

Situation of European universities after Covid-19

The COVID-19 pandemic has had a profound impact on higher education institutions across Europe. The disruption caused by the pandemic has forced universities to adapt, innovate, and grapple with a range of challenges (Farnell et al., 2021). Initially, the pandemic triggered swift and improvised reactions during the spring and summer semesters of 2020. Universities had to hastily transition to remote learning and implement health and safety measures. The gradual reopening of campuses was considered a hopeful step towards a return to normal mode. Yet, uncertainties lingered regarding contingency plans, as full or partial campus closures remained possible depending on the ever-evolving health situation (Smith, 2021).

The pandemic disrupted student and staff mobility, particularly in exchange programs with global partners, the European Higher Education Area (EHEA), and potentially within the European Union. Travel restrictions, quarantine requirements, and the uncertain health landscape created obstacles for traditional mobility initiatives (European University Association, 2022). Students experienced disturbances regarding their mental health, social interactions and access to resources, especially international students whose mobility was negatively affected by the pandemic, bringing exchange programs and research collaborations to almost zero.

European universities transitioned to hybrid and blended learning models (1) during the pandemic. The digital transformation, including the adoption of new technologies, digital tools and online resources (Smith et al., 2020) triggered a profound innovation in teaching and learning with the implementation of innovative teaching methods and remodeled pedagogical approaches with a system of continuous

assessment of the quality of blended learning. Digital technologies, when used appropriately, offer innumerable benefits to the students as they allow for the fast-tracking of the learning process. For instance, they can serve as the hub for knowledge broadcasting and knowledge exchange, wherein information and knowledge flow freely not only from teachers to students, but also amongst students as well (Mhlongo et al., 2023).

Most students experienced online classes for the first time. Variables such as interaction in the online class, student motivation to participate in the online class, course structure, and instructor facilitation and knowledge are important determinants of perceived student learning and student satisfaction. Online student engagement is a stronger determinant of the perceived student learning outcome as online classes lack physical socialization (Baber, 2020). It is inferred that to overcome some of the limitations of blended learning, lecturers can develop interactive tasks to enhance the engagement, motivation and academic performance of students in online environments (McHone, 2020). Furthermore, qualitative evidence suggests that students find face-to-face learning superior to blended learning because the social elements typically associated with in-person classes may not be adequately integrated into online etiquette frameworks. However, there are limited studies that delve into how students view face-to-face (F2F) and blended learning (BL) when Covid-19 is not a factor (Dafydd Mali, Hyoungjoo Lim, 2021).

The possibilities of blended models with the use of mobile learning in higher education are almost unlimited. Mobile devices provide access to connect with students at any time. With this connection, you can instantly send quick messages and notifications about new additions to mobile training materials and segments. You can use this link to send reminders to students, for example, about incomplete modules. Mobile devices also allow the student to easily respond to short

surveys about the content of a particular course, as well as allow them to make suggestions or report any problems with the performance of the lesson platform (Makarchuk et al., 2013)

There are also limitations regarding blended learning because there are still students who are unaccustomed to this recent educational trend and require much scaffolding and support in learning to learn autonomously. This necessitates significant effort from the teacher(s) and designer(s) to deliver such courses effectively. Secondly, transactional distance created by the online part of a BL course may be difficult for students unaccustomed to self-management and in consequence lead to failure. Thirdly, the proper design of the online component of a blended learning course is a highly challenging task which requires sound pedagogic and technical skills. Finally, online environments are frequently treated like an easy and cheap option to traditional learning, especially in the context of blended learning. They are viewed as a panacea for all the shortcomings of a traditional education system, insufficiently skilled teachers and unmotivated, bored students. Obviously, such understanding of blended learning, or more widely – e-learning, is a misapprehension as severe as the belief that computers may replace a human teacher (Bzdak, 2009).

Despite the wide variance in experiences with emergency remote teaching, it is likely that blended practices that combine both online and in-person instruction will become increasingly prevalent across all educational sectors. Scholars have an opportunity to help institutions, instructors, and learners to understand research that can guide and improve blended learning practices. Additionally, there is still much research to do as we need to better understand how different blended models and pedagogical practices within those models work to improve learning outcomes, increase access and flexibility for learners, and impact cost efficiencies (Graham and Halverson, 2023).

In the post-Covid period, governments globally acknowledge the critical role of universities in driving economic recovery, innovation, and social development. To support higher education institutions in this new landscape, many governments have implemented a range of policies and initiatives such as financial support by allocating substantial funding to universities to address the financial challenges brought on by the pandemic. Notably, investments in digital infrastructure are prioritized, with funds allocated to augment the online teaching and learning capacities of universities. This strategic support ensures equitable access to high-quality education for students, irrespective of their geographical location, underscoring the indispensable role of universities in shaping tech solutions for blended learning.

Government policies were geared toward ensuring the resilience, sustainability, and quality of higher education. A number of industrial countries, among them Denmark, France, Finland, Germany, Singapore, Taiwan, the United Kingdom, and the United States, have rapidly approved economic rescue packages that include support for colleges, universities and/or students. They were primarily intended to help public colleges and universities weather the crisis by protecting the employment of most administrative and academic staff, boosting student welfare, and helping with the cost of the technology needed for a smooth transition to online education. France and Germany provided emergency financial aid targeting students who have lost their part-time jobs and/or access to subsidized residence halls. Austria gave an additional semester of financial aid to all eligible students regardless of their academic results (IMF, 2020).

As the post-pandemic situation continues to evolve, universities and governments in the European Higher Education Area are likely to face ongoing challenges in ensuring the health and safety of students and staff, while also aiming to provide high-quality education. Flexibility,

adaptability, and effective communication with relevant authorities were crucial in navigating the uncertain landscape presented by the pandemic. Additionally, lessons learned from this experience may shape the future of higher education in terms of technology integration and preparedness for similar crises.

Campus closures in the future could occur based on the changing hygienic conditions, but the partial reopening of campuses was a positive step toward a return to normalcy for the higher education industry. Another challenge is the need to harmonize permanent and reliable infrastructures and strategies for blended learning across institutions. Blended and hybrid teaching has become the new norm, emphasizing a mix of physical and virtual learning environments and a focus on asynchronized teaching (Reimers et al., 2020).

In conclusion, the situation of European universities post-COVID-19 is marked by adaptation and uncertainty, but also by the potential for positive transformation. The higher education sector must navigate the challenges and opportunities presented by the pandemic, embracing innovative approaches and maintaining a strong focus on the student experience and inclusive education. Collaboration, knowledge sharing, and effective change management will be essential in shaping the future of higher education in Europe (Brown & Johnson, 2023).

(1) *Distinction between Blended learning and Hybrid learning:* Hybrid learning encompasses a balance between onsite presence and online education, providing opportunities to those unable to attend physical training (focus on flexibility). Blended learning fuses traditional and online models to enrich the overall learning experience (focus on strategy).

2. Blended learning in business education

Project description and methodology

The COVID-19 outbreak has changed the way we all live, work and learn. Higher education institutions had to adapt to the pandemic situation suddenly and accelerated the implementation of ICT skills and competencies. Universities have undertaken efforts to adapt their teaching to avoid a disruption of studies. Teachers were forced to convert their instruction to online formats during the lockdowns, most of them moving to blended learning approaches after the pandemic. The **University St. Kliment Ohridski-Bitola (UKLO)** and the **University of Applied Sciences Burgenland (UASB)** quickly reoriented themselves towards providing conditions for students and teaching staff to apply and strengthen blended learning. As a logical consequence, the research question has arisen as to which skills, tools and methods will be maintained, further developed and creatively combined after the Covid-19 crisis. The project, covering a time span of two years from January 2022 to December 2023, examined the implications of this transformation process alongside five questions:

1. How did the two universities re-shift and adjust their educational process to the “new educational situation” due to the Covid-19 pandemic?
2. How were teachers and educators prepared for teaching only online?
3. What are the specifics of business programs when implementing online teaching and blended learning?
4. Which tools and methods will remain, should be adjusted and expanded and which environment will be best to achieve the learning outcomes (on campus, online, hybrid)?
5. How did the business students perceive the online teaching regarding their success in learning and at the workplace?

The research period covered March 2020 with the outbreak of the Covid-19 crisis until September 2023, ending with the final research activity and looking beyond the pandemic by emphasizing its consequences for higher education institutions. By involving teachers as well as students in the field of business education, the project aimed to give a broader perspective on education from both sides.

The project activities started with *desk research* at the two universities UKLO and UASB to determine which measures and activities had been undertaken to adjust the teaching and learning process from March to June 2020 during the first lockdown period. The two institutions were interested in systematizing the experiences, outlining which means and actions seemed to be appropriate to respond to the crisis. The focus was on surveys among students and staff for special online training needs, strategy papers on digitalization, support services from Instructional Design and IT departments, information material and videos for guidance on how to use learning management platforms, virtual meeting tools and Moodle test formats. Through a critical review of all the measures the research team came to conclusions for future recommendations.

Two *focus groups with teachers* in Austria (7 participants from UASB in June 2022) and North Macedonia (10 participants from UKLO in September 2022) gave insights on the changes and weaknesses of online and blended learning. The discussion focused on the change of the professional role from a teacher to an “entertainer” for motivating students, the extensive preparation, the managing of technical tools, the preparation of online tests and assessments (cheating) and the recording of videos. How to deal with emotions and exhaustion/frustration was an essential topic as well as all aspects regarding socialization. The discussion was concluded with perspectives on the future of teaching and learning at universities.

Business students in Austria (10 participants from UASB in June 2023) and North Macedonia (6 participants from UKLO in September 2023) discussed in two *focus groups* the topic on how prepared they felt to enter their profession and the working world through online and blended learning. All the students were required to have work experience in order to participate and provide answers to the question of if they felt worse, better or equally prepared for their future work through online learning. As a result, the limits of online learning regarding certain subjects and managerial skills could be identified as well as the opportunities and chances. According to the results, gaps could be identified that should be closed in business education within blended learning formats.

Following an interview guideline, the participants in all four focus groups participated in a 90-minute discussion moderated by two members of the project team. A third team member additionally documented the emotions related to specific topics by observing the discussion which was recorded and transcribed. The analysis was conducted by identifying the speakers and summarizing the contents. Additional “memory minutes”, written immediately after each focus group, gave information on the most relevant and emotional issues.

An *online survey for teachers and students* was conducted between March 1st and April 30th, 2023. Both surveys included questions related to statistics and questions on the topic of blended learning. Eight questions out of the 16 were targeted to both groups to compare the results, another eight questions addressed specific topics for each group. To reach a reliable number of teachers, the survey for teachers included institutions other than UASB and UKLO as well. In total, 86 teachers from Austria and 108 teachers from North Macedonia completed the survey. For the student survey, the response rates were 132 students from North Macedonia (UKLO) and 102 students from Austria (UASB).

3. Desk research during and after Covid-19

Implementation of blended learning by the universities

The immediate collapse of the educational system during the lockdown immediately after the outbreak of Covid-19 has affected the way of organizing and implementing teaching at UKLO and UASB. It was obvious that the suspension of classes could not last long, given the uncertainty about the duration of the pandemic. In Macedonia, UKLO started activities for adapting to the circumstances of higher education instruction. In Austria, UASB expanded its online teaching, implemented since 2017 for part-time students, across the entire institution. For both institutions, it was challenging to develop measures to manage the new situation, to maintain the quality of teaching, and to deal with difficulties in a virtual learning environment.

Implementation of blended learning at UKLO

An immediate response was the adoption of several documents that regulated the process of education during the pandemic period. Firstly, the **Rulebook for the realization of the teaching process at "St. Kliment Ohridski" University – Bitola (adopted on March 27th,2020), according to the measures of the competent authorities in the Republic of North Macedonia to prevent the introduction and spread of the Coronavirus COVID-19 pandemic** was adopted. Its preparation and adoption was based on the Article 94, point 43 of the Law on Higher Education and in accordance with the Decree on the application of the Law on Higher Education during a state of emergency ("Official Gazette of the Republic of North Macedonia" no. 76/2020), as well as in accordance with the measures of the competent authorities in the Republic of North Macedonia for the protection of the population from the spread of the disease COVID-19. The main aim for this guideline was to regulate and manage the teaching process in the best way

during the pandemic. For that purpose, each faculty decided (in accordance with the instructions from the Ministry of Education and Science) to continue the teaching process by using all available means of electronic communication as supportive tools. Although having been applied and used before the Covid-19 outbreak, these means of communication became essential for the implementation of the teaching process during the pandemic. It was also envisaged for other activities apart from teaching, such as defenses of diploma, master's and doctoral theses, consultations, practical work, lectures by visiting professors, exams, and colloquia, to be held online by using these means.

Establishing the **Code of communication in distance learning** between teachers and students' associates was very important to ensure that the use of electronic communication was not intended to replace physical and social communication in teaching but was only meant as a supplement in such extraordinary study and work conditions. Mutual respect, respect for academic freedom, rights and obligations, respect of collegiality, and equality remained as main principles as well as the respect for privacy of everyone (between teachers and teaching associates with students, as well between the UKLO staff).

The university administration organized several introductory sessions about how to use online platforms (google meet; google classroom, Moodle) and provided guidelines and tutorials on the possibilities and ways of using online learning platforms. Due to the ongoing Covid-19 situation it was evident that the beginning of the academic year 2020/2021 will in any case be different from the one before because of the ongoing epidemic situation. **Research about the realization of the educational process at UKLO during the pandemic**, targeting online teaching, showed that over 60% of teachers combined online teaching with different possibilities for sharing the teaching material, conducting discussions and delivering tasks to students. Colloquia and

exams were conducted differently: 60.6% were on-site, 25.3% were combined online and on-site; 14.1% were online.

Therefore, UKLO considered that the teaching process will have to be implemented according to a different model, for which a **Strategy for implementation of the educational process in the conditions of the pandemic** came into force before the beginning of the 2020-2021 academic year. It referred to the development of three basic directions in teaching:

1. The “classical” way (if the pandemic situation in late September and early October allows it).
2. Online learning, or rather Emergency Remote Learning (a term that arose during the pandemic to delineate online learning at universities that are accredited for this type of learning)
3. Hybrid model or blended learning, combining partial presence of students with online teaching (depending on the decisions of the Commission on Infectious Diseases and the protocols for students to attend the universities).

The period that followed encompassed the three defined forms of teaching at UKLO because there were different situations and periods during the academic year from the pandemic aspect, specifics of the subjects taught, and health aspects. Such possibilities for organizing teaching enabled teachers to create a learning approach that allowed greater flexibility for both students and professors alike in organizing and implementing the teaching process. In this context, blended learning has proven to be a very practical approach because it enables more flexible organization of different activities in different situations (teaching, homework, discussions, meetings, consultations). It has been shown that in the period after Covid-19, blended learning is still in use because of these advantages.

Implementation of blended learning at UASB

Although online teaching was already taking place at UASB for part-time students, the sudden onset of the pandemic meant switching to only virtual teaching across the entire institution. On March 11, 2020, a government decree forced the UASB to change to online teaching within one day. External lecturers and teaching staff in the full-time degree programs had to be trained immediately for online teaching and the handling of secure assessment procedures in an online format covered a main part of the activities, especially during the first lockdown from March 11 to June 19, 2020.

Organizationally, the **Instructional Design Unit** was responsible for supporting lecturers and students together with the **Service Center for Innovative Teaching**. In each department an ID officer was appointed to take on a bridging function between the department and the ID unit. Various documents, handouts, materials and videos on online teaching were produced to train lecturers, such as video tutorials on Moodle and Moodle tests, as well as handouts for students and lecturers with tips for a functioning online environment.

Between June 4 and July 17, 2020, the **Instructional Design Unit** conducted a **survey of students and lecturers** on the usage of the distance learning offers to evaluate the measures. 365 students and 85 lecturers took part in the survey. Overall, the switch to online teaching worked well for both groups (seminars: lecturers: 71.8%, students: 80.2%), although the positive assessment decreased significantly regarding more interactive forms of teaching. Online written examinations were rated as successful by 75% of the students, but only by 42% of the lecturers. There was a greater need for communication, particularly among full-time students, whereas part-time students and lecturers also saw advantages in online teaching for the future. The biggest challenge was the lack of social contact, which was also

confirmed by the focus group discussions. Both teachers and students were also critical of the increased workload. Variety in the use of online tools and a clear presentation of content on the Moodle learning platform also posed a challenge.

From September 2020 to March 2021, **106 technical inquiries** from the Department of Business Studies were collected, primarily regarding the Moodle learning platform and online tests, to determine where there were difficulties and where further training was needed. Based on this, online training tutorials were offered, and instructional videos were produced. In addition, a new format, "Show me your course", was introduced, where lecturers could present their courses online to learn from each other. The UASB's **further education academy, Akademie Burgenland**, designed a program with special online training courses on the tools Moodle, MS Teams, WebEx, interactive online teaching, virtual collaborative learning tools and creating Moodle tests.

The **reaccreditation of the Department of Business Studies** also took place during the pandemic period in 2021, which made it necessary to implement the new forms of teaching and learning into the curricula. **The UASB's "Strategy 2030", the general document of the Instructional Design Unit on teaching and learning and the UASB's digitalization strategy** of April 21, 2021 served as the basic documents. The latter is decisive for this research context, as it describes the interweaving of online teaching and face-to-face teaching, thus blended learning, and expresses commitment to it. An outlook on hybrid teaching is also given in this document. Other topics include examination software and virtual conference systems.

Based on this, a **reaccreditation document on Instructional Design** was drawn up for the Department of Business Studies in June 2021 to anchor blended learning in the curriculum. The strategy describes the

following mission: "We bring together teaching and personalized learning using modern didactics and new digital possibilities, successful practice and applied research." The formats of the courses include traditional classroom teaching, distance learning ("online only"), hybrid teaching and blended learning, with most courses in the Department of Business Studies being held in this format: "The ratio of distance learning (synchronous/asynchronous) and classroom teaching varies in the individual degree programs. As the Master's degree courses are run part-time, the distance learning phases allow maximum flexibility for the compatibility of studies and career". With over 70% of students studying part-time, this form of teaching accounts for most students at the UASB. In sum, like at UKLO, the three major course formats are still in use after the pandemic:

1. On-campus in-person teaching for full-time students and on weekends for part-time students (**classical**)
2. Blended learning, combining on-campus teaching with synchronous or asynchronous online teaching (**standard**)
3. Hybrid formats, with synchronous on-campus teaching and online teaching in the classroom (**added value**)

Further outlook

The future scenarios of blended learning will certainly be determined by another factor, artificial intelligence (AI). Particularly regarding examination settings, whether online or on campus, monitored or in open book format, oral or written, there is a need for discussion on how AI fits into these study formats. The main aspect here is the proof of independent performance by the students and its differentiation from AI.

4. Focus groups with teachers in the field of business

Challenges, experiences and consequences

During the academic year 2022 focus group discussions were conducted with seven lecturers/professors from the UASB Department of Business Studies in Eisenstadt (June 22nd, 2022) and ten professors from the UKLO - Faculty of tourism and hospitality in Ohrid (September 29th, 2022). The participants were from different fields of teaching: business communication, international business language instruction (German and English), marketing, travel agencies, banking and insurance, law in tourism, in hospitality and in insurance, risk management, gastronomy, tourism geography, international transport and logistics, human resources, project management, and empirical research methods. Two moderators from UKLO and UASB guided the discussion in relation to the defined research questions to determine the effects of the implementation of blended learning in the process of teaching and learning during and after Covid-19. Each participant was active during the discussion and contributed with their experience, challenges and obstacles.

After the introduction, the discussion started with **the experience of online teaching before and during Covid-19**. UASB participants had more experience with online teaching before Covid-19 compared to their colleagues from UKLO. Two participants from UKLO had experience with online teaching before Covid-19 but not synchronous, while from UASB six participants had experience in online teaching before COVID 19 of around 20%, and one had experiences from both sides, as a lecturer and as a student.

There was experience with Google Classroom and some assignments online (Mentimeter, Padlet). The problem was the action-oriented approach and the methods to do so online and to find an appropriate

approach (ITM2 – interviewed teacher Macedonia). Also (ITM10) Facebook was in use as a communication platform with students through closed groups for group discussions, exchanging questions about the subjects, providing additional material about the subjects that enabled better communication with students.

All the teachers agreed that online instruction was a challenge and they needed time to adjust to the new format of teaching, just like the students. It was quite a challenge not only for elderly experienced professionals in teaching, but also for younger professors (ITM3) to engage the students and to motivate them as it was much more time-consuming to readjust the classes to make them work (ITA6 – interviewed teacher Austria).

According to ITM6 Covid-19 facilitated and increased the use of online teaching and it should be considered as a good opportunity to communicate with students in the future, particularly having in mind the advantages like reduced living expenses for those who are from other places or areas. He had a positive experience with online teaching and found that the results are like on-site learning. He felt problems might occur with practical learning in laboratories. He also stated that in the future, it should be considered as an option to deliver hybrid formats of teaching in some situations when the students cannot be physically present on campus.

As for **managing to maintain the quality of online teaching and the specifics of subjects when teaching blended or online**, for some (ITM1), online teaching had two main issues: firstly, the technological preparation of the professors (how to use the tools for online teaching), and secondly how to animate students to be attentive and active in class because physical classrooms and online classrooms are two separate educational “products”. Teachers experienced their helplessness related to technical problems, especially in Moodle tests.

At the start, technical issues were the most challenging part because the teachers did not know how to help the students (ITA1) as it was difficult for them to manage all the technical tools (ITA2; ITA4; ITA5; ITM2; ITM3; ITM5). They did not feel comfortable because they did not have experience with online classes, leaving them unprepared and lacking the knowledge of how to best deliver the knowledge and convert the didactics into technique. Some of the colleagues (ITM5) practiced together to give advice. Others did not know how to interact with the students when they started online teaching, leading them to take on the role of entertainer, staging the lecture, requesting students give feedback and share experiences, so to say, to express emotions (ITA1). More energy and emotional impact were needed for online classes (ITA3) but the interactivity and the perception of emotions were missing from students, because there was no feedback. Therefore, it was especially important to apply interactive tools and methods (case studies, quizzes and games, video presentations) to stimulate discussion, group work and team building online.

After a brief period (most of the teachers needed approximately two weeks to adjust to the new tools for online teaching) teachers **adapted to online teaching and the specifics of online classes**. However, frustration was evident when technical problems arose because they felt powerless (ITA1) and it was stressful (ITA6; ITM7) when they had to take on the role of technical support, particularly when working with Moodle tests. There were no difficulties delivering the content during online classes, but the main problem compared to on-site teaching was the inability to monitor what the students were doing when online (working diligently, level of attention when following the teaching (ITM7; ITM9), reaction to some parts of the lectures, and body language (ITM4). These parts of communication were missing and it was a challenge to maintain the quality during online teaching.

The size of the group (ITM1; ITM4; ITM7; ITM8; ITM9; ITM10) and the specifics of the subjects when teaching blended or online were identified as particularly important. With smaller groups it was easier to communicate and monitor students during online classes, while with bigger groups (over 40 participants) sometimes connection problems would occur when a teacher asked the students to turn their cameras on (ITM9). Most of the time students did not speak in online lectures and did not ask questions, neither to the teacher nor to each other. As they experienced the negative impact of no feedback from their peers after a presentation, this changed over time (ITA7) and they became “much more humble over the course of these experiences and less critical of the lecturers when stuff (did) not always work.” The students experienced how a lecturer felt when the group was silent and this was a very important insight for them. For some teachers, however, online teaching was very difficult when delivering courses with specific contents, like in Gastronomy. Such courses demanded the students use all of their senses which was difficult to do (ITM8). Teaching could only take place simultaneously in such situations if each student had an appropriately equipped kitchenette.

Within the two focus groups and the online survey for teachers the **reaction of the students as to how they perceived online teaching compared to face-to-face teaching** was evaluated (ITM1; ITM2; ITM3; ITM5; ITM6; ITM8; IPM9; ITM10; ITA1; ITA2; ITA4; ITA5; ITA7). The results match the experiences of students, expressed in their two focus groups and online survey:

- The concentration was lower because of the lack of face-to-face interaction on-site, both with teachers and colleagues.
- Virtual coffee breaks turned out to be essential because they brought students together.
- Active engagement in class and collaborative planning should be implemented more often as most of the students

recognized that the lack of peer interaction, as well as the lack of active class engagement and collaborative learning were important aspects to consider for teaching.

- Group work was missing and the energy of the students declined. Some students did not show solidarity toward their peers.
- Those who did not have experience with on-site teaching with the faculty prefer remote blended learning.
- Those students who experienced on-site and online teaching shared that on-site lectures and the knowledge they were gaining were more inspirational and better for them, and if they had a chance to choose between online or on-site they would prefer physical presence in classes due to the communication and socialization with colleagues.
- Regarding online exams and tests, the results depended on the topic (e.g., in law subjects there were no differences to on-site tests), the test format and the possibility for cheating online. ITA 3 argued that she did not pay that much attention to cheating, presuming that the students would learn from organizing their cheating.

Teachers have agreed that there are **no huge differences regarding the part-time and full-time students in their perception of online teaching**. Online teaching was very useful in the current situation because students were able to continue with their education during the pandemic. It should also be considered as an option after Covid-19, particularly for those who work or live in other cities than Ohrid/Eisenstadt (economic aspects). However, it was also argued that the teamwork and community building that was lacking turned out to be very essential as students did not know each other. Especially part-time students needed to get in contact and be engaged with each other for the teaching to be successful. They did not feel like they were part of the academic community (ITA6), they only wanted to finish

their studies during the pandemic. However, it was a problem for full time students as well. They did not even know each other and did not create a community (ITA2; ITM3). It was essential for teachers to bring students together in a group by using different teambuilding instruments online.

The experiences that should remain after Covid-19 was also discussed in depth. The situation that made them turn to new teaching techniques for the online classes and the use of different platforms and audiovisual communication tools contributed to broadening their knowledge. This, on the other hand, contributed to the improvement of the quality of teaching and transferring knowledge to the students.

Although physical presence has more positive aspects than online teaching, a blended learning approach and hybrid lectures should be considered in future because coming back to campus after Covid-19 will be greatly influenced by the period during the pandemic (ITA1; ITA2; ITA3; ITM1; ITM2; ITM5; ITM8). ITA 3 compared the diverse study formats with audiovisual media: “on campus studies would resemble a theater, online teaching is like a TV program (which is consumed) and online on demand is Netflix”: The future of teaching and learning will be online and on demand to attract students while the “theater” will die. It is an opportunity for the universities to increase the number of foreign students and engaging more professors from other universities to give lectures (ITM6; ITM7), and vice versa, because there has always been a competition between universities to attract students (ITA5). Also using the technology to give synchronous lectures with teachers and students from different Universities and different countries is another excellent option to increase the quality of teaching and learning (ITM8). Since it was convenient for students during the pandemic to work and study from home, coming back on campus would need an attractive program (ITA2).

The integration of all options applied during the Covid-19 crisis (online teaching in the lockdown periods and blended learning in the phases in between) allowed students and teachers to be in constant communication, which contributed to continuing after the pandemic because it has been proven to be more effective. Blended learning solutions combine “the best of the two worlds” and give students the possibility to socialize (ITA1). It is important to realize the benefits of a blended learning format.

There was agreement that it is a matter of the course type, the group size, the tasks, the different kind of learning methods, the learning purpose and the topic as some courses can be taught online easily, while others live from the interaction on campus (ITM6; ITA7; ITM8; ITM10). As students should not be silent for 90 minutes, it is essential to have different teaching methodologies at hand. This increases the quality of a degree program. A clear distinction between “mastering content and actually having a learning experience” was drawn, showing that *social learning* is still essential (ITA7). Another argument (ITA7) was that low-level students can be better addressed in on-campus lectures, while online they tend to hide behind the other participants.

The discussions ended about the **methods and tools that should be applied after Covid-19**. During the crises, teachers were motivators for students when they were trying to set up the “new normal” learning environment for students. Although it was an exceptional situation, it was also an opportunity to master this situation (ITM6). Teachers now must adjust to the new era with all the (technical) inventions in education by adopting new methods and tools (games, videos, blogs, social media), facing a new generation of students much more digitally educated (ITM2; ITM6).

Discussions led to the conclusion that it is especially important to keep and improve the quality of teaching because of the intense competition between universities in terms of providing learning environments that will meet students' needs. Although online learning will be integrated in the degree programs, students will attend on-site classes as well, especially for socializing and teambuilding. The suggested motto (ITA2) **"be excellent – come back to campus"** should be a driver towards providing excellent degree programs that will maintain the attractiveness of universities. Teachers should be very strong motivators (ITM6) by encouraging students to learn and communicate, as well as coaches, supervisors and sometimes "Windows virtual assistants" (ITM10). Furthermore, IPA 3 argued that it would be better to record the lecture to make it available on demand (Netflix); but others argued (ITA7) that this form is extremely unfair due to the different attention spans on campus and online, mentioning that the hours of teaching will change as students will not be willing to listen for 90 minutes in the future, but rather for 15 minutes by watching a video (ITA5). It was remarked that the type of task is essential. Videos are perceived as an essential tool for recording presentations online as students put more effort into them (ITA7). However, face-to-face can help students to overcome stage fright (ITA4; ITA7; ITM2; ITM8; ITM10). The size of classes/groups was again discussed, and it was agreed that working with small groups in online classes is perfect for coaching lessons.

To conclude, professors from UKLO and UASB faced similar experiences, problems and challenges in teaching during the Covid-19 pandemic. They share the same view that this situation was a challenge for them to maintain the quality of teaching. It turned out that learning how to use new teaching tools and formats was a benefit in the long run, preparing everyone for future crises.

5. Focus groups with business students

Challenges, experiences and consequences

Ten business students from the UASB (Department of Business Studies) and six business students from UKLO (Faculty of Tourism and Hospitality) participated in the focus groups in Eisenstadt (June 21st, 2023) and Ohrid (September 28th, 2023). The students from UKLO were in the third and fourth year of their studies, their working fields covering the service sector, hotel management, services in restaurants and work in a factory for bakeries and pastries. The focus group at UASB was comprised of six students from Austria at the end of their studies in the third year and four students from Georgia, attending a Double Degree program with the Ilia State University in Tbilisi. The range of work covered tourism and catering, accounting and customer service, general management, telecommunication and IT, medical services and work in procurement departments.

The discussion started with the question regarding the **satisfaction with the quality of education delivered online regarding the professional knowledge**. Most of the students from both institutions, but not all, especially those from Georgia, expressed their satisfaction with the quality of the online education during Covid-19. They agreed that it depended on the preparation of the professors for online lectures (ISM2; ISM5 – interviewed student Macedonia) and on the subject taught. One student (ISA10 – interviewed student Austria) from Austria stated that although there had been improvements, teachers could have done better in this regard. On the contrary, for some students it was more convenient to learn online, as from online session to session teachers tried out innovative approaches and improved (ISA5; ISA7). All the students highlighted that the success of online learning strongly depended on the topic of a subject. When you must see, touch, cook, it is difficult to do so online (ISM3) and “there

should be some specific subjects (...) especially face-to-face rather than online because you can understand them better there” (ISA3). As the pandemic situation was very spontaneous, it was hard to teach topics like languages or communication skills online (ISA6; ISA7).

Low concentration when online (ISM1; ISM4) because of distractions and no interaction between professors and students (ISM5) was brought up as an important aspect for learning. Some teachers did not know how to manage the situation at the beginning, so there was silence in the breakout rooms (ISA6) which resulted in distractions. Moreover, when online learning is not the preferred style (ISA3), concentration was hard at the beginning but by the time the students improved and adjusted to the online learning environment.

All students from Austria and Macedonia agreed that when it comes to communication and socializing aspects, which are dominant in the service sector, on-campus teaching is more effective. These skills are difficult to acquire online although students needed to talk during online teaching as well (ISM2). That said, there was disagreement on whether online learning is a benefit for shy people (ISM5) or not (ISM1). However, it was hard during the pandemic to contact people and to communicate face-to-face (ISA4). One student (ISA9) felt well prepared for the job despite online learning because she acquired communication skills in the job and before.

Compared to on-site, online teaching did not affect a lot the practical learning because **the quality of the preparation for the future professional career due to online learning** depends on the student and on the work requirements. Those who felt equally prepared (ISM1; ISM2; ISM3) in Macedonia argued that it depended on the subject and on the professors and the students, because they are both involved in the process of teaching and learning (ISM2). Students from Austria (ISA6, ISA7; ISA8; ISA10) mentioned that the studies, whether online

or on campus, did not help them for their work because either they had to learn everything at work, or they were used to online meetings before (ISA6), or communication skills had already been acquired before the pandemic: “I didn't have enough or a lot to do with online meetings or something else because I was always having contact with the guests. And that was it. And I had experience before in tourism. So, for me it was no difference” (ISA8). Other students in Austria brought up the topics of how to socialize and learn languages online. In business, one needs interaction, teamwork, language and communication skills which should have been delivered face-to-face (ISA6; ISA7).

Students who felt less prepared mentioned again the topic of declined concentration, top-down information from professors to students only and the possibility for easy cheating (ISA3), not being forced to learn for an assessment. As teamwork and mutual exchange on-campus are particularly important for the learning experience, breakout rooms did not prepare them for work at all since they lacked the “real experience” (ISA2; ISA3). “Face-to-face learning is better, and I would say I feel less qualified in that case as well” (ISA2). One student (ISA5) felt the pressure to adapt to the new situation and to intensify their efforts as cheating was quite easy. The Macedonian students confirmed this: Some felt worse prepared (ISM4; ISM6) and stated that the grades had not been “fair” due to the possibility of cheating and the difficulty to concentrate.

Online learning had a positive effect on the work for those students who felt challenged by the situation and developed adaptive skills (ISA1; ISA4; ISA5). The advantages covered the technological and critical thinking skills gained. One student from Macedonia (ISM5) as well felt better prepared for work because of improved technical skills, perceived as an advantage for the future professional career.

The students were also asked if they were **lacking skills and competencies due to online learning that would have been useful at the workplace**. Students agreed that online classes have reduced the opportunities for communication and within this, the positioning within a group and striving for a common goal in a team, which would have been much easier when involved in discussions face-to-face (ISA1; ISA2; ISA3; ISA4; ISA10). Students mentioned again that the socializing and teambuilding aspects were lacking during online learning (ISM1; ISM4; ISM5). After coming back on campus, students did not know each other and they needed time to reconnect again. They all agreed and identified that due to the low level of communication during the online teaching they needed to “upgrade” their communication skills after Covid-19 (ISM2; ISM6). There was no possibility to get to know people during the pandemic. At least one student (ISA4) contacted 20 people during the two online years.

Some students from Austria (ISA2; ISA3; ISA5; ISA7) raised the topic of self-responsibility and accountability for adapting to the situation. It depends on the character of the student how s/he was able to adapt to the new situation and to focus on the learning. Everyone had to find their own approach in this regard (ISA5). Moreover, a lack of reality was stated (ISA7) as one created a personal space in online learning with the possibility to turn off the video and camera function when feeling uncomfortable. During online learning, students missed out on the skills of being pushed and having to stand up for their own ideas, an essential skill at the workplace (ISA1; ISA3). In a group on-campus “you don't want to be the only loser” (ISA1), if you do not pass an exam. In online teaching, no one cares, but motivation and passion are essential for the studies.

Applying knowledge and communication skills were crucial topics as well. Students felt that they did not have the possibilities to communicate in person with different characters of people (ISM3),

particularly having in mind that most of them, especially those from Macedonia, work in the service sector where talking to people, dealing with different clients and managing complaints are crucial competencies. Regarding work, it would have been necessary to learn how to interpret feelings, to argue and to persuade clients, all of which are essential skills for surviving and competing in the business world. You must know how to deal with angry clients or complaints (ISA8), and vice versa, not become upset oneself (IA9). There was a lack of communication skills on how to “fight through” such kinds of situations as you could turn off the camera online, but not a dissatisfied client at your work (ISA2).

Regarding the topic of lacking competencies and skills, the students strongly agreed that interactive group work and discussions could not be substituted in online learning. All the skills and competencies related to communication were lacking due to several reasons that the students mentioned:

- You did not know your own position within a group.
- You were not able to evaluate/assess the reactions of others (interpretation of body language and facial expressions).
- All sensory parts of a conversation were missing (“connection” was missing).
- You did not acquire presentation skills for the real world.
- Skills of being persuasive and influencing others could not be delivered online.
- Students could not develop skills on how to argue with other people, especially in difficult situations, which is a skill very essential for work.
- Students missed out on role plays and communication training during the pandemic.

When discussing **skills and competences that had been acquired during the pandemic for work**, students in Macedonia and Austria mentioned the three main topics of organizational skills, time management and computer skills. One student (ISM1) concluded that “it was a plus for students that were not familiar with IT because they have achieved better software and presentation skills”. The improvement in computer skills and applications were a critical issue as well for the Austrian students (ISA3; ISA6; ISA10). Regarding the organizational skills, students perceived on the positive side that they learned how to work under stress (ISA6), how to get things done fast and to escape problems easily (ISA1). Some students gained patience by working online in developing flexibility and adaptability (ISA2). Some stated that they learned how to rely on themselves (ISA6). Students improved as well in time management (ISA3; ISA5; ISA6). Studying from home meant planning the schedule and the deadlines for the tasks very accurately.

Regarding the skills and competences that were acquired during the pandemic, students stated that they had to

- acquire computer/software skills.
- develop patience, flexibility and adaptability, especially regarding the technical skills.
- prepare themselves for online learning (through social media and tutorial videos).
- escape problems fast and apply tricks for solving (technical) problems.
- organize themselves, not relying on someone else for help.
- develop a mindset of permanent (digital) learning.
- learn how to work under stress.
- engage in proper time management.

In relation to the question, **whether the company where students work for has considered their online learning experiences**, the students' views depended on their workplace and work experience. The topics covered the importance of managerial skills in general, the appreciation of online studies and the expectation of companies regarding online skills of their future employees. Students from Macedonia (ISM1; ISM2; ISM3) argued that online teaching in this regard was not satisfactory for improving managerial skills. Addressing the issue of neglected communication online, one student (ISM1) felt that she had no experience in giving feedback to clients, convincing people or even having small talk with them, other students (ISM2; ISM3) highlighted the importance of face-to-face communication in the service sector over the online learning experience.

As a further result, some students in Austria (ISA1; ISA3; IS 6; ISA7) mentioned that the companies did or do not consider the online experience, rather on the contrary. Either online education was never a topic at the workplace in Croatia (ISA3; ISA6) or the company even graded down the online studies, which were not perceived as full studies (ISA7). The company told the student that it “doesn't mean anything what you have done in the last years”, which seemed to the student even “crazy” as the studies online were much more difficult. Another student (ISA6) had been confronted with statements like “You did not make the real Matura because you were a covid child”, which caused discomfort at the workplace as the manager belittled her education. ISA1 mentioned that even lecturers were critical towards students as they were “the Covid class”.

On the contrary, companies expect from the future employees to be able to deal with online and technical issues which turned from an add-on into an expectation (ISA1). Students stated that it was harder to work after the pandemic as they were expected to know how to work online, how to plan and maximize their tasks, being time efficient. The

companies give the impression that on the one hand online studies do not count that much and on the other hand expecting students to profit from this experience in work (time management, planning, technical skills, organizational management). Companies have high expectations towards the future employees and it depends on the manager. One student reported she had one manager putting her down while another showed respect for her online skills (ISA6).

One student (ISA2) argued that in Georgia companies are not interested if one is good at IT skills acquired during Covid-19 or if someone has experience with online learning at all. However, they are relevant in business communication (ISM4) because employees and business partners more commonly digitalize. Digitalization is a plus for future jobs (working with booking platforms, e.g.) and for supporting the work-life balance as well. Online experience and digital knowledge prepare people for adjusting to similar crises. For this however, it is important that all employees should be on the same level of digital knowledge (ISM5), so a balancing is necessary. The “new shift” to digitalization is a serious challenge especially for older employees who do not have online skills, and for companies, as employees request to work from home.

The discussion concluded with **suggestions and recommendations students would like to pass on from their online learning experience to the next students, teachers or universities.** The suggestions highlighted the digital tools, the socializing aspects and the motivational attitudes. Digital tools were confirmed as good vehicles for improving (ISM4) or adjusting (ISM6) to the work environment. Using common data and communication platforms related to work were identified as useful for enabling better time management (ISM2). Universities should normalize hybrid lessons (ISA1), but not let go off the connection to other people: “So I feel like the hybrid concept is the best thing a university can do to exploit both ways.”

Another topic addressed the socializing aspects. Students mentioned that it is essential to turn on the camera (ISA 2), to speak up, speak louder, be competitive and express ideas (ISA3; ISA8), as well as stay connected with classmates to communicate, even if it is only online (ISA6). Discussions with colleagues are essential in order to share or express opinions, experiences and feelings about certain topics, lectures or exams. Regarding the organizational and motivational aspects, students gave recommendations such as participating in online lectures as if being in class on campus (ISA7), paying attention, following a good time-management without procrastination (ISA9) and finding motivation to get work and studies done (ISA10).

To conclude, both business student groups from Austria and Macedonia, agreed on the most important topics regarding the online learning experience. Regardless of whether a university had previous experience with online teaching or not, the challenges were similar for all institutions. Three conclusions may support this result: Firstly, the pandemic and the lockdown happened *suddenly* and innovation rushed in without an opportunity to adapt to the new situation. This meant that all the institutions started from point zero (mid of March 2020). Secondly, not all students and teachers had experience with online teaching and learning before, even at institutions where online instruction was already in use. The need to get *all* teachers and students trained was equally true for all institutions. Consequently, this led to the third conclusion that online learning for all teachers and students took place *unevenly over time* and personal skills and willingness to learn on both sides played a significant role beyond the institutional requirements.

6. Survey with teachers and students

Common issues and differences between the universities

Analysis of the teachers' survey

The survey addressing professors included a total of 194 respondents, of which 108 (55.7%) were from UKLO - Bitola and 86 (44.3%) from UASB - Eisenstadt. Frequency analysis and cross-sectional analysis were also implemented for the analysis of this survey.

Table 1. Distribution of age groups at the two universities				Table 2. Self-assessment of ICT skills			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	25-35	12	6.2	Valid	Not skilled at all	2	1.0
	36-45	58	29.9		Rather skilled	61	31.4
	46-55	83	42.8		Skilled	49	25.3
	56-65	41	21.1		Very skilled	82	42.3
	Total	194	100.0		Total	194	100.0

Table 1 shows data on the age groups of the respondents from the two universities. In both universities, the most numerous group of professors were professors in the age group 46-55 years, and the least numerous group included professors 25-35 years old. The average age at both universities is close, with the average age at UKLO being 53.6 years, and at UASB 53.02 years. The next question referred to work experience, mainly how many years of experience the respondents had. Only the mean values for the two universities will be shown here. At UKLO the average value of the work experience of the teaching staff is 19.51 years, and at UASB the average value is 16.29 years. The experience of the professors from UKLO is about three years longer compared to the colleagues from UASB.

Among respondents from Macedonia, none declared that they lack ICT skills in relation to online teaching, while among Austrian respondents there are two who confirmed this. The majority of the Macedonian respondents stated that they are very skilled in online teaching (50.9% of the Macedonian respondents), while the majority of the Austrian respondents (34.9%) declared that they are skilled in online teaching (Table 2).

The first content question out of 16 referred to the word that first comes to mind when mentioning the term "blended learning". 45 respondents associated the word "online", and 20 respondents the word "hybrid". Respondents also used other terms such as „offline, internet, combined“, but in a significantly smaller number of cases. The following fifteen questions (Tables 3 to 17) referred to evaluating the degree of satisfaction of the respondents with the online teaching process. All questions resulted in responses given via a Likert scale.

Most of the respondents, 44.3%, declared that they agree that the transition from classroom teaching to online teaching took place without major problems (Table 3). A total of 73.2% of the respondents (agree and fully agree) had a positive attitude towards a simple transition to online teaching. A total of 11.9% of the respondents (disagree and fully disagree) had a negative attitude towards the claim that the transition to online teaching was simple. These results do not correspond to the results regarding the skills of the teaching staff, where only 1% stated that they do not have ICT skills for the realization of online teaching.

Table 3. Distribution of answers for the question: The shift from on-campus to online classes worked well.				Table 4. Distribution of answers to the question: I am satisfied with the blended learning format			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	4	2.1	Valid	I fully disagree	5	2.6
	I disagree	19	9.8		I disagree	18	9.3
	I am neutral	29	14.9		I am neutral	40	20.6
	I agree	86	44.3		I agree	86	44.3
	I fully agree	56	28.9		I fully agree	45	23.2
	Total	194	100.0		Total	194	100.0

All universities have created legislation for the implementation of online teaching. On the basis of that legislation, teaching was carried out during the pandemic period, but also after that, where there is a need for online or blended learning methods. Hence, the next question was: "I am satisfied with the blended learning format" (Table 4). The distribution of answers for this question was similar to the previous one. 11.9% of the respondents have a negative attitude towards the claim given on this issue, while 67.5% declared positively. 20.6% of respondents have a neutral attitude. Again there are differences in attitudes between the two groups of respondents, but this will be analyzed in detail in the following cross-sectional analysis.

Table 5. Distribution of answers to the question: On-campus classes provide more benefit than online classes				Table 6. Distribution of answers to the question: The lack of personal communication was demotivating			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	1	0.5	Valid	I fully disagree	5	2.6
	I disagree	12	6.2		I disagree	25	12.9
	I am neutral	37	19.1		I am neutral	29	14.9
	I agree	62	32.0		I agree	81	41.8
	I fully agree	82	42.3		I fully agree	54	27.8
	Total	194	100.0		Total	194	100.0

The next question (Table 5) asked, if “on-campus classes provide more benefit than online classes”. The largest number of respondents, 74.3%, answered positively to this question. Only 6.7% respondents have a negative attitude on this issue. 19.1% of respondents gave a neutral answer. There are differences between the answers from the respondents of the two universities, but those differences are not significant.

The next question (Table 6) referred to the situation of whether the lack of personal communication was demotivating. Physical contact between teachers and students was the primary drawback in teaching during the pandemic. Through this question, the attitude of the professors is analyzed as to which extent the lack of physical meetings has affected the teaching from the perspective of the professors. The largest percentage of teachers, 70.6%, agreed that the lack of personal communication is demotivating in teaching. 15.5% of the teaching staff did not agree with this position, and 14.9% did not have a position regarding this issue. There are no significant differences in the attitudes of respondents from the two universities.

During the entire period of online teaching, and especially at the beginning when introducing this type of teaching, the administration had its role in providing conditions for this kind of teaching. The following question referred to this topic, “The university administration assisted me to manage the online classes” (Table 7).

Table 7. Distribution of answers to the question: The university administration assisted me in managing the online classes.				Table 8. Distribution of answers to the question: I would like to continue with online classes after COVID-19			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	15	7.7	Valid	I fully disagree	21	10.8
	I disagree	29	14.9		I disagree	50	25.8
	I am neutral	38	19.6		I am neutral	51	26.3
	I agree	75	38.7		I agree	50	25.8
	I fully agree	37	19.1		I fully agree	22	11.3
	Total	194	100.0		Total	194	100.0

There are differences between the two groups of respondents in the answers. 32.4% of respondents from UKLO gave a negative answer. 10.4% of respondents from UASB gave a negative answer as well, which is significantly less than the respondents from the first university. 72.1% of respondents from UASB gave a positive answer, and from UKLO only 46.3%. This indicates the fact that in Austria the administration had a more significant role in providing conditions for maintaining online teaching than the administration in Macedonia.

The next question concerned the readiness to continue with online teaching after the pandemic. The question was: "I would like to continue with online classes after COVID-19" (Table 8), and the distribution of answers by the universities is given in Table 8. The views of the respondents are divided according to the number of negative and positive answers. 36.6% responded negatively, 37.1% positively, and 26.3% neutrally. Therefore, there is no unequivocal answer as to whether the attitude of the professors is positive or negative towards continuing with online teaching. There are certain differences in the attitudes of respondents from different universities. From the university in Macedonia, there are more negative answers, 44.4%, and from the university in Austria, that percentage is 26.7%. At the university in Macedonia, 33.3% have a positive attitude, and at the

university in Austria, that percentage is 41.9%. Macedonian professors prefer in-person teaching, while professors from Austria are mostly ready to continue with online teaching.

Table 9. Distribution of answers to the question: The university should provide hybrid or online classes in the future.				Table 10. Distribution of answers to the question: I had no experience with online teaching before COVID-19.			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	8	4.1	Valid	I fully disagree	32	16.5
	I disagree	21	10.8		I disagree	31	16.0
	I am neutral	36	18.6		I am neutral	9	4.6
	I agree	81	41.8		I agree	57	29.4
	I fully agree	48	24.7		I fully agree	65	33.5
	Total	194	100.0		Total	194	100.0

The next question asked if „the university should provide hybrid or online classes in the future” (Table 9). Despite the fact that 36.6% of the respondents to the previous question answered negatively, they mostly expect that universities will give them the opportunity to hold online classes in the future. 66.5% answered this question positively, and only 14.9% answered negatively. Although a higher percentage of professors from Macedonia compared to their colleagues from Austria answered negatively, there are no significant differences in the distribution of answers at the two universities.

The next question (Table 10) was about the experience with online teaching before the pandemic. Although there was previously a question about assessing their own ICT skills, this question specifically targeted the teachers' previous experience of online teaching. The results are given in Table 10. The largest number of respondents 122 (62.9%) stated that they had no previous experience with online teaching. Almost one third of the respondents (32.5%) claimed that they had previous experience with online teaching. The percentage of respondents with previous experience was higher in Austria with

45.4% as compared with Macedonia with 22.3%, with the converse being true for those who had no experience.

The next question addressed the time required to prepare material for online teaching. Considering that a certain percentage of professors had no experience with online teaching, it is to be expected that they needed more time when preparing the material for this type of teaching. The question was “It was more time consuming to prepare for online teaching” (Table 11).

Table 11. Distribution of answers to the question: It was more time consuming to prepare for online teaching.				Table 12. Distribution of answers to the question: I had to learn new tools for online teaching.			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	14	7.2	Valid	I fully disagree	9	4.6
	I disagree	47	24.2		I disagree	20	10.3
	I am neutral	25	12.9		I am neutral	9	4.6
	I agree	79	40.7		I agree	101	52.1
	I fully agree	29	14.9		I fully agree	55	28.4
	Total	194	100.0		Total	194	100.0

The largest number of respondents agreed that online teaching caused greater engagement in the preparation of teaching material. Among Austrian professors, that percentage is higher with 66.3% as compared to Macedonia with 47.2%. 31.4% gave a negative answer to this question. They stated that online teaching does not affect the time needed to prepare the teaching. 12.9% had a neutral attitude.

The next question was: “I had to learn new tools for online teaching” (Table 12). There was a difference in the answers of the professors about the readiness to hold online classes. Out of the total number of respondents, 80.5% gave a positive answer to this question. Only 14.9% had prior knowledge and did not need to learn new online

teaching tools. There are no significant differences between the two groups of respondents.

The next question related to the differences in teaching style when delivering face-to-face versus online instruction. The question was: “I had to change my teaching style for blended learning” (Table 13).

Table 13. Distribution of answers to the question: I had to change my teaching style for blended learning.				Table 14. Distribution of answers to the question: It was more effort to maintain the quality of teaching results online.			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	5	2.6	Valid	I fully disagree	4	2.1
	I disagree	17	8.8		I disagree	21	10.8
	I am neutral	20	10.3		I am neutral	23	11.9
	I agree	110	56.7		I agree	84	43.3
	I fully agree	42	21.6		I fully agree	62	32.0
	Total	194	100.0		Total	194	100.0

Among the respondents from both universities, the majority of the respondents (78.3%) declared positively, that is, that they have changed the way they teach in class. A small part of the respondents, 11.4%, declared that they did not make changes in the way they hold classes. There are no significant differences in the attitudes of the respondent groups.

The next question (Table 14) addressed the effort put into organizing online teaching. The question asked if “it was more effort to maintain the quality of teaching results online”. The largest part of the respondents, 75.3%, answered that online teaching represented a greater effort for teachers in relation to in-person teaching. There are no significant differences in the attitudes of the two groups of respondents. A small percentage of respondents declared that online teaching did not mean additional effort to maintain the quality of teaching, 12.9%.

The next question related to the quality of teaching. The question was: “The quality of my teaching decreased due to online classes” (Table 15). This question may also have been appropriate for students so that they could evaluate the quality of the teaching. The largest part of the respondents, 43.8%, answered that they do not agree that the quality of teaching decreased while teaching online. 30.4% of the respondents answered that the quality of the teaching decreased due to the fact that it was conducted online. A large percentage of the respondents, 25.8%, did not have an opinion on this issue. The majority of Macedonian professors agreed that the quality of teaching decreased due to the online way of learning. However, there are no significant differences in the attitudes of the respondents.

Table 15. Distribution of answers to the question: The quality of my teaching decreased due to online classes.				Table 16. Distribution of answers to the question: I had the impression the students were satisfied with my online teaching.			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	21	10.8	Valid	I fully disagree	1	0.5
	I disagree	64	33.0		I disagree	8	4.1
	I am neutral	50	25.8		I am neutral	43	22.2
	I agree	45	23.2		I agree	105	54.1
	I fully agree	14	7.2		I fully agree	37	19.1
	Total	194	100.0		Total	194	100.0

The next question asked if “I had the impression the students were satisfied with my online teaching” (Table 16). The majority of the respondents, 73.2%, answered positively to this question, and only 4.6% gave a negative answer. 22.2% of the respondents have a neutral attitude on this issue. The percentage of positive answers is higher among respondents from Austria, 83.8%, compared to 64.8% among Macedonian respondents. However, there are no significant differences in the attitudes of the two groups of respondents.

Table 17. Distribution of answers to the question: I missed the active participation of students in online classes.

		Total		Macedonia		Austria	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	I fully disagree	7	3.6	4	3.7	3	3.5
	I disagree	32	16.5	16	14.8	16	18.6
	I am neutral	15	7.7	7	6.5	8	9.3
	I agree	68	35.1	37	34.3	31	36.0
	I fully agree	72	37.1	44	40.7	28	32.6
	Total	194	100.0	108	100.0	86	100.0

The results of the last survey question “I missed the active participation of students in online classes” are displayed in Table 17. A significant percentage (72.2%) of the respondents agreed with the view that students are not as active in online teaching as they are in the case of in-person teaching. 20.1% of the respondents expressed a negative view on this issue, and only 7.7% had a neutral view. There are no significant differences in the attitudes of the two groups of respondents.

Analysis of the students’ survey

132 students from Macedonia (UKLO) and 102 students from Austria (UASB) completed the survey, which was composed of 21 questions with 4 general questions and 16 questions related to the contents of the research. Frequency analysis and cross-sectional analysis (and factor analysis) were applied to gain the results.

The first general question referred to the country in which the respondents were studying. The second question (Table 18) referred to their study cycle and the third question to their year of enrollment (Table 19).

Table 18. Cycle of studies			Table 19. Year of enrolment		
	Total			Total	
	Frequency	Percent		Frequency	Percent
Bachelor	167	71.7	2020	71	30.5
Master	64	27.5	2021	75	32.2
Doctor	2	0.9	2022	52	22.3
Total	233	100.0	Before 2020	35	15.0
			Total	233	100.0

As expected, most of the respondents, 71.7%, are first cycle students, 27.5% are Master students and only 0.9% are doctoral students. The distribution of study cycles is different for students from Macedonia and students from Austria. Among respondents from Macedonia, the percentage of students from the first cycle is 91.6%, while the students from Austria enrolled in the first cycle of studies only represent 46.1%. In the second cycle of studies, there are 6.9% respondents from Macedonia and 53.9% respondents from Austria. The third question referred to the students' enrollment year. That data is important to see how many students studied during the COVID-19 pandemic. Before 2020, only 35, i.e., 15% of the students were enrolled, 31 from Macedonia and 4 from Austria. Students who enrolled in 2022 did not have online teaching at higher education institutions, although they had the same or similar experience in secondary education. Their percentage is 22.3% (52 respondents).

The fourth general question (Table 20) referred to the respondents' personal skills for active participation in online activities. From the results given the following can be concluded:

- A small number of respondents do not have or have weak skills for online monitoring of teaching. As for the Austrian students, none declared that they do not have the skills to follow online teaching, while only 2 of the Macedonian students, i.e. 1.5%, declared this was the case. 2.3% of Macedonian students and

3.9% of Austrian students have weak skills for online monitoring of teaching.

- The largest number of respondents, 37.3%, i.e. 87, declared that they have sufficient skills to follow online teaching. In this group of students, there are no differences in the percentage of Macedonian and Austrian students. The same applies for the percentage of students who have good or excellent skills in following an online course.
- According to all previous results, students in a significant percentage, about 96%, successfully followed the online teaching.

Table 20. Personal estimation of skills				Table 21. The shift from on-campus to online classes worked well.			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	Not skilled at all	2	0.9	Valid	I fully disagree	8	3.4
	Rather unskilled	7	3.0		I disagree	25	10.7
	Skilled	87	37.3		I am neutral	45	19.3
	Rather skilled	82	35.2		I agree	80	34.3
	Very skilled	55	23.6		I fully agree	75	32.2
	Total	233	100.0		Total	233	100.0

The following 16 questions on the research topic are related to the experiences students had in relation to blended learning. The first semi-open question was, like in the teachers' survey, "What word comes to your mind when the term blended learning is mentioned". The answers were very different and will not be shown here. The most frequently used word is "online", which occurs in 25.75% (60 respondents) of the responses. For comparison, among teachers it was 23.2% (45 respondents).

The answers to the following questions (Tables 21 to 35) are given according to the Likert scale with five possibilities, two positive, two negative and one neutral. The first question here was the following:

“The shift from on-campus to online classes worked well.” From the results given in Table 21, the following can be concluded:

- Most of the respondents, 66.5%, agreed or completely agreed that they had an easy transition to online teaching.
- However, 14.1% of the respondents, i.e. 33, did not agree or did not agree at all that the transition from on-campus to online teaching was simple. Here there is a difference between respondents from Macedonia and Austria. Macedonian students gave a negative answer with 14.5%, while that percentage among Austrian students is only 5.9%.
- There is also a difference among students who chose a neutral answer. A total of 19.3% of the students chose that answer. 24.4% of the Macedonian students selected the neutral answer, as compared to only 12.7% for the Austrian students.
- The difference in this question is evident among Macedonian and Austrian students. Although it is better to do a classical cross-sectional analysis to see the value of the Pearson coefficient, the numbers sufficiently indicate the differences. In the cross-sectional analysis chapter, the corresponding analysis is done.

The question “I am satisfied with the blended learning format” (Table 22) analyzed whether the universities have organized the education process well.

Table 22. I am satisfied with the blended learning format.		Total		Table 23. On-campus classes provide more benefit than online classes		Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	10	4.3	Valid	I fully disagree	14	6.0
	I disagree	22	9.4		I disagree	34	14.6
	I am neutral	46	19.7		I am neutral	50	21.5
	I agree	79	33.9		I agree	53	22.7
	I fully agree	76	32.6		I fully agree	82	35.2
	Total	233	100.0		Total	233	100.0

Based on the answers, it can be noted that 9.4% of the total number of respondents are not satisfied with the organization of blended learning. The majority of respondents, i.e. 66.5%, are satisfied or very satisfied. Differences are again observed in the answers given by the two universities. Among Macedonian students, the degree of dissatisfaction is 13%, while among students from Austria, that percentage is only 4.9%. The same applies to the satisfaction with the organization of teaching. Among Macedonian students, the degree of satisfaction is 53.4%, while among Austrian students that percentage is 83.4%. 26.7% of Macedonian and 10.8% of Austrian students have a neutral attitude.

Table 23 shows answers to the question “On-campus classes provide more benefit than online classes”. Most of the respondents (57.9%) gave positive answers to this question. There are no significant differences between the respondents from UASB and UKLO. 20.6% of the respondents stated that they disagree or fully disagree and 21.5% gave a neutral answer. Students prefer on-campus classes at both universities.

Table 24. The lack of personal communication was demotivating				Table 25. The university administration assisted me in managing the online classes			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	31	13.3	Valid	I fully disagree	9	3.9
	I disagree	36	15.5		I disagree	24	10.3
	I am neutral	36	15.5		I am neutral	78	33.5
	I agree	86	36.9		I agree	74	31.8
	I fully agree	44	18.9		I fully agree	48	20.6
	Total	233	100.0		Total	233	100.0

The next question, “The lack of personal communication was demotivating” referred to the lack of communication between students and teaching staff. From Table 24 it can be concluded that:

- More than half of the respondents, i.e. 55.8% confirmed that the lack of communication was a demotivator for them.
- For 28.8% of the respondents, the lack of personal communication is not a reason for demotivation in the learning process.
- 15.5% of the respondents have a neutral attitude.
- There is also a difference in attitudes between Macedonian and Austrian students regarding this question. Less than 50% of the Austrian students (44.1%) agreed with the view that the lack of personal communication is demotivating. Among Macedonian students, that percentage is 64.9%. The opposite is also true here with 21.3% of Macedonian students having the opinion that the lack of personal communication is not demotivating for them, while that percentage among Austrian students is 38.2%.

The next question concerned the work of the administration. It reads "The university administration assisted me to manage the online classes". The results of the analysis are given in Table 25. Out of the total number of students, only 10.3% do not agree that the university administration helped them in online teaching. More than half of the respondents, i.e. 52.4%, answered that they agree or completely agree that the administration helped them in online teaching. And in the answers to this question, there are differences in the attitudes of respondents in Macedonia and Austria. Among Macedonian students, 43.5% agreed that the administration helped them in online teaching, while that percentage among Austrian students is 63.8%, or more than 20 percentage points higher.

Table 26. I would like to continue with online classes after COVID-19				Table 27. The university should provide hybrid or online classes in future			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	33	14.2	Valid	I fully disagree	22	9.4
	I disagree	41	17.6		I disagree	25	10.7
	I am neutral	29	12.4		I am neutral	26	11.2
	I agree	43	18.5		I agree	57	24.5
	I fully agree	87	37.3		I fully agree	103	44.2
	Total	233	100.0		Total	233	100.0

The answers on the question “I would like to continue with online classes after COVID-19” are given in Table 26. If we look at the aggregate results, 55.8% of the students declared that they want online teaching to continue even after the end of the pandemic. However, the responses of students from the two universities differed drastically. Among Austrian students, 78.4% declared that they agree to have online classes even after the pandemic, of which 60.8% answered that they completely agree. Among Macedonian students, only 38.2% agree that they would continue with online teaching in the future. The answers to this question best express the experiences and attitudes of students at different universities towards online teaching.

The next question concerned the students' expectations for the future. The question was: “The university should provide hybrid or online classes in the future” (Table 27). Of the total number of respondents, 68.7% declared positively, of which 44.2% completely agreed. There are significant differences in the attitudes of students from both universities on this issue as well. Macedonian students with a percentage of 31.3% do not agree that the university should organize online teaching in the future, while in Austria that percentage is only 5.9%.

Table 28. I had no experience with online learning before COVID-19				Table 29. I noticed changes in the teaching style of my professors			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	18	7.7	Valid	I fully disagree	13	5.6
	I disagree	31	13.3		I disagree	35	15.0
	I am neutral	17	7.3		I am neutral	68	29.2
	I agree	71	30.5		I agree	87	37.3
	I fully agree	96	41.2		I fully agree	30	12.9
	Total	233	100.0		Total	233	100.0

The question related to students' experiences, "I had no experience with online learning before COVID-19" is displayed in Table 28. Of the total number of respondents, 71.7% had previous experiences with online teaching even before the start of the pandemic. In the answers to this question, there are no significant differences between the respondents from the two countries and the two universities. Among Macedonian students, the percentage of experienced students is 69.5, while among Austrian students, that percentage is 74.5, that is a difference of only 5%, which is within the standard error.

The next question was: "I noticed changes in the teaching style of my professors". The results of the answers given can be found in Table 29. More than half of the respondents, 50.1%, noticed a change in the way teachers conducted classes. About 20% do not agree that the teaching method changed. There are certain differences in the attitudes of respondents from Macedonia and Austria, but these differences are not large. Among the Macedonian students, there is a larger number of respondents who have a neutral attitude, while among the Austrian students, there is a higher percentage of the answer "I agree".

Table 30. The teachers were able to attract and maintain my attention during online classes				Table 31. I could reach the same learning results online			
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	12	5.2	Valid	I fully disagree	19	8.2
	I disagree	40	17.2		I disagree	51	21.9
	I am neutral	50	21.5		I am neutral	33	14.2
	I agree	80	34.3		I agree	61	26.2
	I fully agree	51	21.9		I fully agree	69	29.6
	Total	233	100.0		Total	233	100.0

The results on the question “The teachers were able to attract and maintain my attention during online classes” are given in Table 30. There are no significant differences between respondents from the different universities. Most of the respondents, i.e. 56.2%, declared that the teachers attracted their attention during the online teaching, while 22.4% disagreed with that view; 21.5% gave a neutral answer.

The next question concerned the results of online teaching: “I could reach the same learning results online as on-campus” (Table 31). The largest part of the respondents, 55.8%, declared that they agree with the attitude regarding the achieved results. Less than a third, i.e. 30.1%, disagree that they had the opportunity to achieve the same results online as on campus. Among Macedonian students, the percentage of students who agreed with the defined position is 51.9%, while among Austrian students, that percentage is somewhat higher, i.e. 60.8%. Additional analyses are needed on how online teaching can be improved, so that a greater percentage of students can achieve results similar to those they achieved when they had on-campus teaching.

Table 32. The quality of my learning decreased due to online classes			Table 33. I missed out on group work due to the online format				
		Total				Total	
		Frequency	Percent			Frequency	Percent
Valid	I fully disagree	47	20.2	Valid	I fully disagree	52	22.3
	I disagree	64	27.5		I disagree	50	21.5
	I am neutral	49	21.0		I am neutral	41	17.6
	I agree	48	20.6		I agree	55	23.6
	I fully agree	25	10.7		I fully agree	35	15.0
	Total	233	100.0		Total	233	100.0

The next question concerned the quality of learning: “The quality of my learning decreased due to online classes”. The results are given in Table 32. Most respondents, i.e., 47.7%, declared that the quality of learning did not decrease during online teaching. That percentage is more pronounced among students from Austria, where 55.9% of respondents do not agree with that attitude. Among Macedonian students, that percentage is 41.2%. Macedonian students with 32.8% stated that the quality of learning decreased during online teaching. The answers to the questions are consistent among respondents from different universities. Macedonian students have more reservations about online teaching than students from Austria.

The next question concerned the possibility of working in groups during online teaching. Following the question “I missed out on group work due to the online format”, the results of the answers are given in Table 33. Most of the respondents answered that they did not miss out on group work due to online teaching. In the answers to this question, there are big differences between the respondents from the two universities. Among Macedonian students, the percentage of respondents who agree with the view that they lacked group work due to online teaching is 56.5%, i.e. more than half of the respondents, while that percentage among Austrian students is 15.7%.

Table 34. I feel comfortable with online classes because it makes time management easier			Table 35. The online classes are a good experience for future work environments		
	Total			Total	
	Frequency	Percent		Frequency	Percent
Valid I fully disagree	7	3.0	Valid I fully disagree	12	5.2
I disagree	20	8.6	I disagree	15	6.4
I am neutral	25	10.7	I am neutral	36	15.5
I agree	65	27.9	I agree	76	32.6
I fully agree	116	49.8	I fully agree	94	40.3
Total	233	100.0	Total	233	100.0

The penultimate question addressed the planning of time in online teaching. The question was: “I feel comfortable with online classes because it makes time management easier”. The results are given in Table 34. 77.7% of the total number surveyed responded positively to this view. Among Macedonian students that percentage is 57.9%, while among Austrian students the percentage is 90.2%. Although the majority of students from Macedonia have a positive attitude towards online teaching in relation to time management, the percentage of agreement among different groups of respondents differs significantly.

The final question was: “The online classes are a good experience for future work environments” (Table 35). The majority of respondents answered this question affirmatively. Only 11.6% of them declared that online teaching is not a good experience for future work. Although the majority of Macedonian and Austrian students answered affirmatively, there are differences in the percentages. Among Macedonian students, 59.5% agreed or completely agreed that online teaching is a good experience for the future working environment, while that percentage among Austrian students is 90.2%. Only 3% of the Austrian students declared that online teaching is not a good experience and basis for working in the future. In contrast, 18.3% of Macedonian students answered negatively to this question.

7. Consequences after Covid-19

Recommendations for teaching: mindset, skillset, toolset

The aftermath of the COVID-19 pandemic has reshaped the landscape of European universities, prompting swift transitions to remote and blended learning models. These adaptations, while born out of necessity, have highlighted the potential of digital technologies to revolutionize teaching methods. Hence, a balanced strategy is required to address the transition towards blended learning, emphasizing its potential and also the value of conventional face-to-face encounters. Furthermore, the importance of the student experience will be still critical in the future.

The digital turnaround has opened up new possibilities for both teachers and students related to their **mindset, skillset and toolset**. No group would like to return to on-campus teaching only after the “pandemic experience” due to the advantages of technology. The results of the questionnaires indicate that most of the students (68.7%) and professors (66.5%) would like to continue in the future with hybrid or online classes.

For successful teaching in a blended learning format, it is crucial that teachers develop a **mindset** which includes frustration management in class, especially in challenging situations like online tests, community building between students inside and outside of online classes and the managing of negative emotions. Teachers have to take care for their own self-management, not being exhausted when teaching online because of no responses from students. Hence, they need feedback and discussion in online classes that aims to encourage self-management and personal responsibility among students. According to Covid-19, it is no longer necessary to take students by the hand, but

rather to give them the freedom to organize their own learning. In this context, students repeatedly mentioned the necessity for good time management, the need for stress management, the development of organizational skills and an attitude of permanent learning. For teachers, this means promoting the self-accentuation of students rather than being an “entertainer” for them. As personal guides, the aim is not to take all responsibility away from the students, but to encourage them to keep their learning environments, be they digital or physical, well organized and functional. Teachers should support students here by organizing their courses in a clear, concise and structured manner.

In addition, students are quite critical of which courses are suitable for an online format and which are not. For teachers, this means developing a mindset that recognizes the limitations of online teaching on the one hand, and considering which tools can best be used online on the other. Patience, flexibility and adaptability are therefore required from both sides, especially when it comes to handling the technology. Here, however, it is crucial that teachers do not see themselves as providers of IT support but instead encourage students to create functioning learning environments by themselves. This is particularly true in test situations. However, following Covid-19, students have learned to rely on themselves.

By taking on the diverse roles as an “environmental designer”, facilitator, communicator, guide or coach who leads students through the learning process, the teacher has to choose the tasks and tools in class regarding their appropriate degree of interactivity. Within this **skillset**, the main goal is to maintain and improve the quality of teaching in an online environment by attracting, retaining and maintaining the students' attention, applying the appropriate tools and methods, like producing a video, applying a learning app, offering short quizzes and interactive tasks. Although this “gamification” of teaching

was not perceived as that new, it is especially important in online classes because it helps students to become more engaged and active in class.

All the students agreed that it depends on the subject taught and on the preparation and skills of the teachers as to how well online or blended learning formats support the learning objectives. In terms of skills, students want teachers to take on the role as environmental designers to give stimulating online lessons, so that concentration, motivation and team building are possible. Using the right tools for the right (interactive) tasks and creating the opportunity for team building within and outside of online teaching is a crucial skill for teachers.

In close connection with this socializing aspect, teachers should also consider energy and emotion management in the classroom, which is much easier to do on-campus by interpreting body language. Online, students noted that they can easily “disengage”, especially in unpleasant situations. At the same time, this possibility is also perceived as a loss, as argumentation skills cannot be developed. Teachers should have the skills to design lessons online in such a way as to offer students a safe space to “try things out”, for example through breakout sessions or “framing” the teaching situation with a subsequent debriefing.

With regard to the **toolset**, it is not necessary for teachers to become a multifaceted technical performer. Rather, it is advisable to use fewer tools that support the skills mentioned. Technically, online short interactive “tests” and quizzes as an introduction or conclusion to classes, the filming of personal instructional videos (also for re-watching on demand), the use of one or two collaborative tools, interactive scripts (with links) or materials from the Internet can actively shape lessons. However, the application of the toolset is directly dependent on the type of subject taught. This is especially

decisive for degree programs that include subjects being more practical, where the activation of all the senses is important in the learning process and is directly related to the application of certain skills acquired by the teachers.

In terms of organization, additional online tutorials, knowledge checks or virtual coffee breaks are a good way to consolidate knowledge and promote team spirit. This would also mean breaking up the strict framework of 1.5-hour lectures in favor of demand-oriented lecturing, which was defined as a future trend by the teachers (focus groups). It also means using the right tools to create blended learning courses and considering hybrid formats. Even if the latter involves more effort for lecturers to bring both groups of students together in teams, this form of teaching was repeatedly mentioned by students as a positive option. By emphasizing the importance of the student experience, blended learning environments should be merged with traditional classroom settings in a harmonious and balanced way.

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