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UNIVERSITIES' RESPONSE TO THE COVID-19 CRISIS: WHAT HAVE WE LEARNT SO FAR?

December 2021

Key messages and recommendations from Coimbra Group Universities

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**Universities' response to the Covid-19 crisis:
What have we learnt so far?**

**Key messages and recommendations
from Coimbra Group Universities**

Foreword

Since the outset of the Covid-19 pandemic, the Coimbra Group network has been exchanging and reflecting on the impact of the health crisis on the way universities operate. Buttressed by its close-knit community of academics, researchers and practitioners in international academic cooperation, the Coimbra Group has contributed to policy dialogue since the very first days of the pandemic by responding immediately to a request from the European Commission in March 2020 in the context of the repatriation of students and staff on mobility and on the application of the 'force majeur' clause of the Erasmus+ programme; then, two months later, by publishing the report 'Practices at Coimbra Group Universities in response to the COVID-19 – A Collective Reflection on the Present and Future of Higher Education in Europe'. This report was based on the responses of 33 Coimbra Group universities to an internal questionnaire addressing the areas of mobility, teaching and learning, research and service to society in the context of the emergency.

One year later, we decided to extend our reflection to a wider range of dimensions, including Teaching and Learning; Internationalisation Strategy and Mobility; Development Cooperation; Research; Doctoral Studies; Career Services and Employability; University Cultural Heritage; Equality, Diversity, Inclusion. The result is the present publication, consisting of a collection of papers drafted by the Coimbra Group Working Groups and based on an internal questionnaire launched during summer 2021. Mindful of the constantly changing situation, it is important to note that the report is based on data collected and analysed over the summer and autumn of 2021.

We have had the pleasure and honour to share the insights from the 2020 report at several policy meetings: with the European Commission Directorate General for Research and Innovation on the measures of the EU recovery instrument 'Next Generation EU' (17 June 2020), at a bilateral meeting with Mariya Gabriel, EU Commissioner for Innovation, Research, Culture, Education and Youth (7 July 2020), at the European R&I Days (22-24 September 2020), at a Marie Skłodowska-Curie Actions stakeholders' meeting organised by the Directorate General for Education and Culture (12 November 2020).

Furthermore, the publication has been cited in numerous studies: in the International Association of Universities' publication 'Regional Perspectives on the impact of Covid-19' (August 2020); the EUA Briefing publication 'European higher education in the Covid-19 Crisis' (September 2020); the Council of Europe's publication 'Higher education's response to the Covid-19 pandemic - Building a more sustainable and democratic future' (March 2021); the NESET's (Network of Experts working on the Social Dimension of Education and Training) report 'The impact of Covid-19 on higher education: a review of emerging evidence' (March 2021).

True to its collegiate spirit, the present report is the result of a collective effort of the Coimbra Group member universities, which provided information on the challenges and coping mechanisms 'on the field', of the Working Group members, who analysed the data while continuing to exchange on the latest developments, of the Coimbra Group Executive Board, who provided comments, and of the Coimbra Group Office, who coordinated this initiative.

The Executive Board is very grateful to all Coimbra Group universities for demonstrating a strong push for resilience and sustainability through this important initiative. We hope the key messages outlined here will inform policy making and help the academic community at large.

The members of the Coimbra Group Executive Board,

Prof. Ludovic Thilly, Executive Board Chair

Prof. Cláudia Cavadas, Executive Board Vice-Chair

Prof. Luca Verzichelli, Treasurer

Prof. Beatrix Busse

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Introduction

In spring 2020, shortly after most European countries had announced lockdowns and other severe measures to combat the Covid-19 pandemic, the Coimbra Group collected examples and experiences of how its member universities had reacted to the emergency measures. This exercise was carried out by means of an online questionnaire shared with all the members of its community. This, together with internal discussions among practitioners and experts within the Coimbra Group network, led to the publication of the report ['Practices at Coimbra Group Universities in response to the COVID-19 – A Collective Reflection on the Present and Future of Higher Education in Europe'](#).

After more than one year into the pandemic, we wanted to hear how our member universities continue to be impacted by the pandemic, whether there are any specific challenges that come to the fore and what possible solutions could mitigate them.

While the first report from May 2020 focused on international mobility, teaching and learning, research, and service to society – which reflect the areas that were immediately and most visibly impacted from the emergency measures – the present report aims to be more holistic by extending its reflection on a wider range of dimensions, including Teaching and Learning; Internationalisation Strategy and Mobility; Development Cooperation; Research; Doctoral Studies; Career Services and Employability; University Cultural Heritage; Equality, Diversity, Inclusion.

The report brings together the results of a survey with open questions developed by the Coimbra Group Office and the Chairs and Vice-chairs of several of its Working Groups, more specifically the Working Groups on *[Academic Exchange and Mobility](#)*, *[Development Cooperation](#)*, *[Doctoral Studies](#)*, *[Education Innovation](#)*, *[Employability](#)*, *[Equality and Diversity](#)*, *[Heritage](#)*, and *[Research Support Officers](#)*. The aim of the survey was to seek feedback on how Coimbra Group member universities have been coping with the consequences of the pandemic measures and propose a set of recommendations and key messages for the higher education and research community and policymakers.

It is important to underline that, like the first report, the present one is the result not only of the consultation via the online survey, but also of a steady exchange of views and sharing of practices during the past months.

This report provides a snapshot of the practices and strategies as illustrated by several concrete examples adopted at Coimbra Group universities since the start of the pandemic and puts forward suggestions for improvement.

In reading the examples and strategies outlined in this paper, readers should be mindful of the differences in national higher education and research systems across Europe, divergent degree structures and academic traditions. Furthermore, there are of course also national and institutional differences ranging from staff and student numbers, funding mechanisms, support structures for teaching and learning and so forth. Finally, it is also important to bear in mind that measures against Covid-19 have been different in each country.

Methodology

Together with the members of its thematic Working Groups, the Coimbra Group Office designed an online questionnaire divided into 9 sections corresponding to specific dimensions and mirroring the composition of the Coimbra Group Working Groups (see the full questionnaire in Annex I):

- Equality, Diversity, Inclusion;
- Internationalisation Strategy;
- Mobility;
- Development Cooperation;
- Teaching and Learning;
- Doctoral Studies;
- Research;
- Career Services and Employability;
- University Cultural Heritage.

The Coimbra Group Office sent the invitations to fill in the online questionnaire to its 41 member universities on 4 June 2021; one response per university was required. The recipients of the message were the university's Rector, President or Vice-Chancellor, the Coimbra Group contact person within that university as well as all its representatives in the various Working Groups.

Universities were encouraged to utilize the following procedure for providing feedback: one staff member at a given university would be in charge of collecting input for the various sections from the university's delegates in the corresponding Working Group or from the relevant unit(s) at their institutions, and then submit the response. There was no obligation to provide feedback for all the sections.

The deadline for responses was originally set for 1 July 2021. Due to the summer break and the relatively demanding length and depth of the questionnaire, it was then extended several times with a final deadline of 17 September 2021.

A total of 31 Coimbra Group universities responded to the online questionnaire. The responses were then analysed and discussed by the members of the Working Groups, who authored the different sections of this report. The feedback provided through the questionnaire has been further nourished by internal discussions and exchanges within our network. Finally, the members of the Coimbra Group Executive Board and the Coimbra Group Office provided comments and edited the report.

These are the 31 universities that responded to the online survey:

Aarhus University, Åbo Akademi University, University of Barcelona, University of Bergen, University of Bologna, University of Bristol, Eötvös Loránd University Budapest, University of Coimbra, University of Cologne, Trinity College Dublin, Durham University, University of Edinburgh, National University of Ireland Galway, University of Geneva, University of Graz, University of Groningen, Alexandru Ioan Cuza University of Iaşi, Istanbul University, Friedrich Schiller University Jena, Jagiellonian University in Kraków, KU Leuven, University of Padova, University of Pavia, University of Poitiers, Charles University in Prague, Saint Petersburg

State University, University of Siena, University of Tartu, University of Turku, Uppsala University, Utrecht University, Vilnius University, University of Würzburg.

1. Teaching and Learning

The European higher education landscape changed substantially over the last year and a half, under the unprecedented pressure to organise and re-organise teaching and learning, according to specific national and international health regulations aligned with the evolution of the current Covid-19 pandemic. While the crisis in spring 2020 forcefully pressed universities to respond with 'emergency remote teaching' to social isolation constraints, higher education institutions had a short respite to prepare different and tailored scenarios for the academic year 2020-2021, taking into consideration more carefully the needs of teachers, students, and support staff.

As in the first pandemic episode, Coimbra Group universities faced similar challenges but at a sinuous pace: some institutions were able to resume on site, face-to-face activities along with improvements in the overall health conditions at the national level, some adopted 'hybrid' teaching solutions in various manners, while others planned and delivered mostly online teaching activities due to health concerns. As one may expect, some of the solutions adopted and reported by universities are to some respect similar, but in some cases innovative paths or strategies were put in place. In all cases, the efforts and the engagement of teachers and support staff (including members of e-learning services or groups), and decision-makers at different institutional levels were critical for the success in designing and enacting appropriate action plans.

In this short report we attempt to provide an overview of the policies and practices developed and implemented by some Coimbra Group universities to cope with challenges in delivering high quality educational activities in a time of incertitude, constant changes, and recurrent adjustments. 28 universities answered the questions in the section on Teaching and Learning of the Second Coimbra Group Questionnaire on Covid-19 Impact and Adaptation. A content analysis of the collected answers was conducted, in order to determine the main themes and associated sub-themes. Each thematic category is accompanied by examples of institutional policies and practices; given the contextual and institutional differences, all examples are neutrally presented, but common challenges and responses were favoured throughout the analysis.

The overview of responses to the follow-up survey is complemented with a final section that includes key takeaways for the higher education communities and suggestions for policy makers, all based on reflections shared in the Education Innovation Working Group, which gathers teachers, professional development and e-learning staff, researchers in education and decision-makers (i.e., vice deans and vice-rectors) from several Coimbra Group universities.

Insights on institutional policies and practices

Institutional arrangements and experiences transferable in post-pandemic times

With hybrid arrangements devised in most Coimbra Group universities for the previous and the current academic year, flexibility and willingness to adapt to new learning and teaching environments of administration, as well as teaching and support staff, are to be noted as the most valuable resources. Although most universities already used various learning management systems for teaching, learning and assessment before the pandemic crisis, **developments** in these directions, and **associated pedagogical innovations** (*e.g.*, inverted classrooms, flipped classrooms) increased in speed and depth. Thus, the UNIVERSITY OF COLOGNE anticipates that inverted classroom concepts will replace some lectures and aspires to digitize more teaching elements in the future, while the DURHAM UNIVERSITY promoted a flipped classroom approach for online teaching, offering detailed guidance for teachers in redesigning lectures and student activities. The UNIVERSITY OF TURKU reported not only teachers' 'digital jump', but also teaching and learning approaches favouring the flipped classroom model. In a comparable vein, the UNIVERSITY OF SIENA considers that new technology-based teaching and learning collaborations shaped in accordance with the flipped classroom model will be spread and embraced in future. Interest in developing flipped learning activities is tightly connected to asynchronous learning activities in either online or offline arrangements, as reported by the UNIVERSITY OF BRISTOL and the ISTANBUL UNIVERSITY.

The widespread use of **blended teaching and learning** solutions is another outcome to be further explored, discussed, and supported at universities. For example, the UNIVERSITY OF GRONINGEN favours blended teaching and learning as an avenue for the future, but also acknowledges the significant effort needed for the proper implementation of related educational principles. The same applies to KU LEUVEN, in terms of optimal balance of online and offline teaching and learning activities. The educational community of the UNIVERSITY OF PADOVA appreciates the flexibility and inclusiveness of blended activities, which also supports lifelong learning, while at the SAINT PETERSBURG STATE UNIVERSITY blended teaching and learning is anticipated to be the most widespread future education option. In this context, the FRIEDRICH SCHILLER UNIVERSITY JENA has already fully piloted an online master programme.

Continuous professional development for university educators may also be one of the key lessons learnt during the current pandemic: recent experiences at the UPPSALA UNIVERSITY are to be carefully considered as a basis for informed choices for the development of blended learning and enhanced professional development for faculty members; on a similar note, the UNIVERSITY OF BOLOGNA will further its efforts in teacher training in order to infuse educational innovations in both synchronous and asynchronous tasks. The UNIVERSITY OF POITIERS has invested in high quality resources to support teachers in their technical and pedagogical endeavours, enabling them to make the best use of the available online educational platforms. The NUI GALWAY also anticipates a mixture of using technology where it is most appropriate and getting greater educational value from time available in class, post-pandemic. However, training programmes as well as curriculum design for online or blended environments require additional time for teachers, which should

be recognised as a part of the overall workload, as mentioned in the questionnaire by representatives of the EÖTVÖS LORÁND UNIVERSITY BUDAPEST.

As a result of intensive online teaching and learning and enhanced connectedness and adaptability, **internationalisation of the curriculum became a daily reality** at some universities, following professional online exchanges of teachers and students. Although perceived as a serious challenge for internationalisation due to abrupt interruptions of traditional mobility, **remote online, hybrid or blended programmes** foster more profound journeys, enabling teachers and students to interact in virtual multicultural classrooms, without walls and with common learning aims. The UNIVERSITY OF BARCELONA and the UNIVERSITY OF COIMBRA used the opportunity offered by the pandemic experience to internationalise programmes at curriculum level.

Intimately embedded into teaching and learning, the human resource dimension of the two processes is highlighted in varied aspects: **engaged and inspirational leadership** within universities, frequent and **stimulating collegial discussions** between teachers in departmental and inter-departmental meetings, and **supportive teachers-students interactions** attempted to foster connectedness in a time of human isolation. For example, the UNIVERSITY OF BERGEN and the AARHUS UNIVERSITY emphasise the significance of social interaction not only for the overall well-being of faculty and students, but also as a fundamental pillar for successful teaching and learning.

Students and staff well-being, equality, and inclusion

Beyond the direct effects on teaching and learning, the severe social distancing measures during the pandemic affected all the members of the academic communities. The consequences were addressed by universities through **specific mechanisms**, either **institutional web pages** dedicated to the Coronavirus situation, health concerns and research advances on the issue, and/or **special phone-lines**, short-term intervention programmes, informal collegial and **peer support groups/forums** or targeted individual counselling (psychological and educational) sessions. Thus, the UNIVERSITY OF GENEVA implemented a 'Campus Coach' programme similar to a buddy system, to encourage peer support. The NUI GALWAY undertook a major project focused on student well-being, with periodic surveys providing a powerful evidence base on which to plan actions and support. Increased support has been provided ranging from the provision of health services, counselling, and, most recently, the planned introduction of student success coaches. The UNIVERSITY OF GRAZ ensured continuous and individualised assistance to disadvantaged and disabled students though its Centre for Integrative Studies; ALEXANDRU IOAN CUZA UNIVERSITY OF IAŞI addressed students' need for communication and belonging via the pre-pandemic programme of tutorship and psychological counselling for both national and international/mobile students, including peer support groups coordinated by psychologists and master students in clinical psychology. The JAGIELLONIAN UNIVERSITY IN KRAKÓW offered a variety of online guides, also available for impaired students in adapted forms.

Special provisions addressing diverse needs within student communities were employed in the UNIVERSITY OF PAVIA, which actively designed a teaching plan not only for disabled, but also for adult students in full-time jobs and /or with family responsibilities in

addition to university training. The CHARLES UNIVERSITY IN PRAGUE used online platforms enabling customisation of educational activities according to individual students' needs and also made available psychological counselling services for students. The ÅBO AKADEMI UNIVERSITY developed peer-support groups with the involvement of students in psychology, and also adapted many of the academic activities - including online exams - for accommodating different student needs. The UNIVERSITY OF TARTU offered an online psychological helpline, in order to safeguard community and individuals' well-being, and explored community needs for specific advice and assistance through regular online surveys and communication between students and teachers.

All universities stressed the danger of social isolation when it comes to the overall well-being of students and staff and acknowledged inclusion issues in online teaching and learning environments. However, they developed initiatives at different levels for addressing these issues.

Infrastructure: investment in teacher professional development along with technology (hardware and software) improvements or renewal

During the pandemic, higher education institutions were confronted with multiple challenges, but some obvious priorities for **ensuring programme resilience** between episodes of crisis were teachers' professional development in line with intensive online or hybrid requirements, as well as technology improvements or renewal. Coimbra Groups Universities have long-established learning management systems, and all have e-learning and/or digital communication departments/services. However, the sudden increased demand for live-streaming solutions to replace on site or video-recorded lectures, as well as the urge to prepare lecture halls and classrooms for hybrid teaching before the start of the academic year, required **investments in both hardware and software**. In addition, teachers had to adjust rapidly to new digital tools, so technical support was typically complemented by **pedagogical training**.

For example, the UNIVERSITY OF BARCELONA developed online guides available to the whole community on a special resource webpage, addressing online teaching, learning and assessment. Similarly, the ISTANBUL UNIVERSITY launched an online guide for distance education.

Some universities, such as the EÖTVÖS LORÁND UNIVERSITY BUDAPEST, organised targeted helpdesk services, with e-learning staff providing educational counselling for teachers. Several higher education institutions, such as the UNIVERSITY OF BOLOGNA, the UNIVERSITY OF BRISTOL, the UNIVERSITY OF COLOGNE, UPPSALA UNIVERSITY, and ÅBO AKADEMI UNIVERSITY, delivered a series of teacher development webinars or online workshops, alongside their existing professional development programmes. The UNIVERSITY OF BERGEN set up daily webinars within its Programme for University Pedagogy and the Learning Lab; these activities focused on software and live-streaming usage, as well as assessment. In addition to a substantial number of online training sessions covering all aspects of teaching online and in hybrid forms, the NUI GALWAY provided a Learning Technologist position for each of the four constituent Colleges.

The Centre for Educational Development of AARHUS UNIVERSITY offered additional training courses, although it was already investing in IT training for its staff before the pandemic crisis, and several other universities set up specially designed programmes, addressing mainly pedagogical topics in addition to digital skills development. Thus, the UNIVERSITY OF POITIERS transformed the 'PedagoLab' into a single-entry point to all questions related to education and digital technology, with new services integrated. In the same way, the eLearning Centre of the JAGIELLONIAN UNIVERSITY IN KRAKÓW integrated technical and pedagogical assistance for teachers. The UNIVERSITY OF COLOGNE offered an advanced training programme for teachers – 'eTeaching expert', created by the Centre for Teacher Education, which provides important knowledge about the design of digital lectures, seminars, and practical assignments.

All universities purchased new software and videoconference system licences, and some also invested in **proctoring technology**. In some countries or regions additional financial resources have been allocated for the purpose of helping universities to renew their technology infrastructure and to hire support staff, while some higher education institutions improved their teaching and learning infrastructure and enlarged the teams facilitating digital and pedagogical developments. A smaller number of universities even provided hardware resources for students from disadvantaged backgrounds and staff, and. For example, DURHAM UNIVERSITY ensured students from low-income backgrounds had adequate computing facilities and provided staff with equipment to enable them to develop and deliver teaching from home. The same applies to the UNIVERSITY OF BERGEN, who enabled students to loan computers for free.

Ethics in technology enhanced learning environments

Generally, no specific technology and applications were mandated at Coimbra Group universities, but as institutions centralised the preparations of certain learning management systems, videoconferencing applications and other types of digital tools were favoured. Staff training addressed available tools for delivering remote online synchronous and asynchronous activities, and in some cases the decision on which digital tools to use for teaching, learning and assessment was delegated at faculty/department levels.

At the beginning of the pandemic, universities adapted their **institutional protocols and regulations in order to ensure students' and teachers' privacy**, and recommendations on student identification, recording during educational activities, regular and final exams were communicated to corresponding academic communities. However, some universities did not allow proctoring, and others invested in necessary equipment, software and staff training.

For example, the UNIVERSITY OF BARCELONA did not allow proctoring tools, the UNIVERSITY OF BRISTOL restricted proctoring to well-determined educational situations covered in institutional regulations, the UNIVERSITY OF COLOGNE did not use proctoring, but allowed videoconferencing surveillance during digital exams. The same applies to the ALEXANDRU IOAN CUZA UNIVERSITY OF IAŞI. The UNIVERSITY OF GRAZ did not use any proctoring or videoconferencing surveillance, and the UNIVERSITY OF GRONINGEN decided against proctoring to protect students' well-being. The NUI GALWAY organised a trial of a remote proctoring solution, but eventually decided not to extend it to a full service, due to

important practical and ethical issues. The controversy on proctoring during online/digital exams will certainly continue, but there appears to be mixed solutions and decisions in Coimbra Group universities.

Students' identification for access to online learning materials, educational activities and exams is a common practice, mainly delivered through digital tools requiring names and passwords individually assigned to students. For example, at the UNIVERSITY OF PADOVA learning tools were accessible only via Single Sign On, and therefore students could be easily recognised, while their privacy was respected. In the same way, CHARLES UNIVERSITY IN PRAGUE requires students' authentication before the access to online platforms, and thus they are easily identified with no threat to their privacy. For online oral exams, students enrolled at AARHUS UNIVERSITY were asked to show their student identification card on camera for the instructor to verify their identity, but there was no use of face recognition software.

Assessment and e-assessment

Online/digital assessment was certainly one of the challenges that had to be addressed during the whole year 2020, but it is also clear that universities took this opportunity to enrich their assessment repertoires. Traditional closed-book exams and written tests have been replaced with **assessment methods reducing stress and anxiety**, e.g. open-book exams with a longer time, digital tests conducted using learning management systems, e-portfolios and e-projects.

For example, in 2020 DURHAM UNIVERSITY used 48-hour open-book examinations, and in 2021 time was reduced to 24 hours, to bring it in line with other institutions in the UK. UPPSALA UNIVERSITY also reports an increase in the number of open-book examinations and AARHUS UNIVERSITY also transformed written exams into 24-hour take-home exams or similar formats. However, there are distinctive institutional cases of e-assessment during the pandemics.

In the case of the UNIVERSITY OF BERGEN, all assessments have been conducted on a digital platform since 2015, so the process was already established when the pandemic crisis started. A considerable number of exams were modified into open-book exams, especially in the humanities and social sciences and the grading scale was temporarily changed from A-F to Pass/Not Pass, to reduce students' stress. Against this background, the assessment turnaround for both teachers and students were relatively straightforward.

Another interesting example is based on assessment arrangements at KU LEUVEN: assessment was predominantly organised on campus, with special measures to ensure sufficient time slots and additional hygiene precautions.

At the JAGIELLONIAN UNIVERSITY IN KRAKÓW, a comparison of the results (grades) was carried out in the context of non-monitored versus monitored online test examinations. The results of monitored online test examinations are similar to the results of the pre-pandemic test examinations, whereas the results of non-monitored online test examinations are significantly higher.

One of the common issues raised by Coimbra Group universities was **unethical or dishonest conduct** (e.g., cheating, plagiarism), among students during exams. As mentioned before, some institutions used proctoring or surveillance systems to try to prevent this, whereas others did not employ them on the grounds that it would be stressful for students and also for privacy reasons. Some universities reported **a raise in overall grades and reduced dropout rates**, interpreted as possible results in assessment alterations, as well as **increased workloads for teachers and students**, and **difficulties in assessing some skills and competencies** with available digital tools.

Internships and student placements

Most universities maintained **practical** laboratory **work on campus**, respecting strict sanitary protocols. Whenever possible and depending on the study programmes, **internships and practical placements were replaced with equivalent activities**, such as simulations and case studies completed in online environments, remote internships and, when possible, virtual field trips and use of scanned artifacts, practical projects developed under tutors' supervision, online career fairs gathering companies' representatives, teachers and students.

For example, the UNIVERSITY OF BARCELONA used simulation programmes and activities that allow students to follow the work to be done in the laboratory (e.g., videos, exercises). In the UNIVERSITY OF BRISTOL many placements were adapted so that they could be carried out online, in authentic ways which mirrored real workplaces, with some additional skills provision. The UNIVERSITY OF PAVIA organised many webinars on placement activities, with online CV checks and company profiles presentations performed online, as well as the University Career Fair, with good levels of participation from companies and students. In UPPSALA UNIVERSITY, alternatives to practical placements were developed and some teachers made use of online tools. The NUI GALWAY reported a variety of approaches adopted or piloted across the institution including virtual labs, virtual field trips and virtual placements.

A distinctive approach was reported by Coimbra Group universities which offer **study programmes in medicine** (e.g., the UNIVERSITY OF COLOGNE and the JAGIELLONIAN UNIVERSITY IN KRAKÓW): all clinical placements in hospitals were postponed during lockdowns, but resumed when possible, or organised continuously with special sanitary measures and in accordance with hospitals' internal regulations.

At the same time, **teacher education programmes** also benefited from special arrangements, made possible in close collaboration with schools. The UNIVERSITY OF COLOGNE reported that internships at schools for student teachers were allowed in a remote mode while schools were closed, and they could also be done partially on site and partially remotely. Similarly, at the ALEXANDRU IOAN CUZA UNIVERSITY OF IAȘI, internships at schools were organised remotely, with the support of receiving schools.

Key takeaways for the higher education community

In the last one and a half years, universities have taken serious steps to embed institutional experiences during the pandemic into future, sustainable developments in teaching, learning and assessment. Compared with the first reports on the process discussed here, higher education institutions are now able to deliver structured, well-designed and reliable online educational experiences.

However, there are aspects to be further reflected, decided and worked on, among which are the following:

- **It is generally acknowledged that it would be useful to capitalise on the most successful experiences** and sharing of good online and remote teaching, learning and assessment practices. Decisions on what universities will keep, and what they will abandon in post-pandemic times are still to be taken. Most probably, a carefully balanced mix of online and on campus activities will be maintained, with lectures for large numbers of students being the most likely place where online provision will be first implemented.
- Innovative approaches such as **inverted and flipped classrooms pedagogies** developed during this period should be scrutinised, well documented, and disseminated to the larger academic community as inspirational resources.
- Sensitive issues related to **student and staff well-being** should be properly addressed in universities' institutional decisions, regulations and practices. The workload of both teachers and students should be realistically evaluated and acknowledged, so that balance may be achieved in this respect.
- **Equality and inclusion** for students and teachers should be actively fostered. Access to technology, connectivity, and provisions for those with learning needs are topics for further exploration within institutions, but external support measures are also necessary.
- Investments in technology (hardware and software) are certainly important. However, **investments in continuous development of teachers and support staff** are even more relevant for a sustainable future. Additionally, increasing the number of teachers and support staff will benefit the quality of teaching, learning and assessment activities.
- Although proctoring and surveillance measures during online/digital examinations may ensure increased credibility in assessment, reflections on **recent assessment practices** may uncover more **feasible**, **less expensive**, and **less stressful** alternatives. As the Coimbra Group Education Innovation Working Group underlined on several occasions, authentic assessment methods and tools may easily complement traditional choices and may also benefit transferable competencies of students. After all, assessment context may be interpreted as learning contexts. Note that this does not imply the neglect of misconducts in assessment.
- Although it is easier to argue for than to achieve, universities **need to balance teaching and research in their strategic priorities**, as well as community involvement, and to support teaching excellence with similar schemes and rewards as the ones in place for outstanding achievements in research. Teaching has proved to be a priority for universities during the current pandemic.

Recommendations for policy makers

- **Research in teaching, learning and assessment in higher education** should be explicitly supported and recognised. Recent advances and innovative approaches should be appropriately scrutinized, tested in different academic cultural and academic contexts, and eventually sustainably embedded into teaching practices. Teaching innovations should be recognised in career development pathways.
- Special attention should be devoted to **online or digital pedagogy**, in line with advances in technology-enhanced environments. Technology alone did not produce the expected 'educational revolution'; it was people's determination to make sense of remote online education in a time of crisis that brought about tremendous change. Only after careful consideration and further research, we may decide whether these novelties should be dismissed or incorporated into daily lectures, seminars and practical activities.
- **Equality and inclusion** in terms of access to critical resources for vulnerable students, teachers, and support staff at universities, as well as access to meaningful learning and professional development programmes, are areas worth of further exploration to prevent educational and social loss in the near future.
- **Internationalisation at home** and virtual exchange should be further supported in diverse contexts and through various actions. It is likely that the provision of-student virtual exchanges and increased investments in professional development and educational design, will remain also in post-pandemic times.

[1] For a brief conceptual note, see the previous Coimbra Group Report - *Practices at Coimbra Group Universities in Response to the COVID-19. A Collective Reflection on the Present and Future of Higher Education in Europe*, released in May 2020, https://www.coimbra-group.eu/coimbra-group-universities-responses-to-the-covid-19-emergency/

2. Internationalisation Strategies and Mobility

The Covid-19 crisis has offered the opportunity to redefine internationalisation goals at Coimbra Group universities. First of all, one could say that the focus has shifted from numbers (of international students and staff on campuses) – which, according to university rankings, were one of the main indicators of internationalisation - to meaningful, content-centred internationalisation. With several challenges ranging from empty classrooms, staff flexibility, students' and employees' well-being and the provision of novel educational formats, internationalisation 'at home' emerged as a crucial concept at Coimbra Group universities. Never before has the relationship with staff and students been so important. Due to the Covid-19 crisis, 17 out of the 30 Coimbra Group universities responding to the section of the online questionnaire related to internationalisation strategies and mobility, say they have either re-thought their internationalisation strategies, prepared new programmes for international cooperation, or have devised new strategies for university development including a new internationalisation plan. **Most of the surveyed universities agreed that international cooperation should include the deployment of digital communication tools and virtual formats as complementary to physical exchange and mobility schemes.** There seems to be a will to increase virtual teaching and learning in international cooperation. As for the Coimbra Group universities whose strategies remained unchanged, they declared that digitalisation was among their strategic priorities even before the pandemic, and the Covid-19 crisis only fastened its implementation. Moreover, the **pandemic contributed to the need for a stronger relation between universities and the public**. Consequently, numerous Coimbra Group universities have conducted research on coronavirus and on the impact of the emergency measures on people, with the aim to tackle the issues brought about by the pandemic and reduce its social impact. By joining forces in *ad hoc* partner initiatives, Coimbra Group universities managed to contribute significantly to this demand.

Newly revised strategies and programmes based on experience during the pandemic include a variety of elements of adaptations. The following is a non-exhaustive list of the kind of initiatives:

- Building on the success of online courses during the crisis, the UNIVERSITY OF GENEVA is considering offering virtual summer schools for foreign students.
- For KU LEUVEN, the goal is 'student mobility for all', so while they are considering focusing more on blended formats, they remain strongly in favour of physical mobility, which they consider crucial for in-depth development of intercultural competences.
- For ISTANBUL UNIVERSITY, the digitalisation of administrative procedures and Erasmus Without Paper have become top priorities.
- The UNIVERSITY OF POITIERS is redirecting funds towards providing tools to teachers for distance learning; they also plan to encourage them to organise courses in a hybrid way, compatible with blended inward and outward mobility.
- The UNIVERSITY OF PAVIA implemented international opportunities for their students and staff who were forced to stay at home by activating the 'internationalization@home' programme, based on inviting colleagues from foreign universities to give lectures.
- The International Relations Division at the UNIVERSITY OF PADOVA has developed a two-year institutional strategy in collaboration with the Education Division and the

Digital Learning Office. The strategy foresees promotional activities as well as training courses and the development of recognition procedures both for staff and students in terms of credits.

This shift to a virtual environment in internationalisation strategies of Coimbra Group universities means that funds have been directed towards initiatives like virtual courses, virtual exchanges or digital equipment of classrooms, but also towards sustainable, greener mobility options (e.g. initiatives encouraging train travel), or scholarships for incoming international lecturers. The aspect of inclusiveness in mobility is also an asset.

However, there seems to be a strong belief that physical mobility is and will remain crucial for in-depth development of intercultural competences.

According to the majority of respondents, the 2021-27 Erasmus+ Programme, seems to fulfil its new restructuring role of post-pandemic revival of physical and blended mobility.

Table 1. Coimbra Group universities' opinion on the structure of the new Erasmus+ Programme 2021-27 and its relevance to the major challenges brought about by the pandemic. More than 80% of responding universities are quite satisfied with the main novelties introduced, although an absolute majority of respondents clarifies that, despite the significant results achieved, there is still room for improvement.

Answers	% of CG universities
Yes, I think the Erasmus+ Programme tools 2021-27 are fully appropriate	19
Yes, I think the major novelties are good, but there is still scope of improvement	62
We are not participating in the Erasmus+ Programme (CG partner countries, UK, Switzerland and Russian partners)	15
No, the new tools are not appropriate for implementing own international strategy	4

All respondents appreciated three core priorities of the new programme: inclusivity, digitalisation and support to the environmental sustainability. Short-term mobility for PhD students and Blended Intensive Programmes seem to be of great relevance to the respondents. Below is a list of the tools considered to be the most appropriate by all Coimbra Group universities responding to the survey:

- Short-term mobilities
- Integration of international experience in the curricula
- Digitalisation and simplification of mobility management
- International window in KA131
- Doctoral and post-doctoral mobility
- Blended Intensive Programmes

According to our respondents, it would be desirable if the Erasmus+ Programme addressed the following elements:

- Possibility to carry on virtual mobility in KA131 (that is, have the scholarships covered by funding even during a virtual mobility experience)

- Make available tools for promoting internationalisation at home as well as intercultural activities
- Make available funds for the dissemination of best practices and results (still included in Organization of the Mobility - OS)
- Make the financial reporting (especially for the National Agencies) more flexible
- Set aside financial support (in terms of human resources and comprehensive tools for managing the mobility lifecycle) for the implementation of the digital Erasmus
- Provide guidance on how to implement new activities (i.e. Blended Intensive Programmes), or policy priorities (i.e. support for the inclusion of individuals with more opportunities)
- Disconnection between national and international performance indicators and activities implemented by the Programme

Apart from mobility, most Coimbra Group universities look forward to returning to their main didactic and research activities in presence with the option of continuing blended formats, especially with regard to implementing innovative ways of teaching and learning.

Table 1. Changes in the use of times and spaces after the pandemic (24 respondents)

There will be no changes of the use of times and spaces after pandemics	We continue some of the innovation adopted during the pandemic even after the conclusion	At the time of the questionnaire, our governance did not take a decision
8 %	75%	17 %

Table. 2. Main ways to continue with the new modalities to guarantee the CG universities' operations:

Main modalities carry out after the pandemic	% Answers
Blended teaching and learning with a modular use of university infrastructures	55
Continuation of a % of remote working for the staff	30
Reinforcement of non-formal, informal teaching and learning as well as strengthening of facilitation support	30
Blended networking with international partners	15

Most respondents considered the information provided on practices and policies by both the European Commission and the National Agencies to be sufficient and helpful. Additional support (related to essential costs and travel during the Covid-19 outbreak as well as more flexibility within virtual placements) offered by the European Commission and National Agencies has been very much appreciated by staff and students in some countries.

What has been signalled as problematic is the federalised nature of Erasmus+ with communications from the European Commission being disseminated via National Agencies; this resulted in higher education institutions receiving information at different times depending on the country in which they are located. In addition, the National Agencies of each member state handled the situation in a different manner, which turned out to be challenging. This may

lead to confusion as well as lack of transparency when it comes to communicating with partners located in different countries.

Regarding the start and implementation of the new Erasmus+ Programme 2021 – 2027, there are various critical remarks and suggestions for improvement made by several Coimbra Group member universities.

The European Commission's decisions, as well as the implementation of the Programme by the National Agencies, have been often regarded as uncertain and not timely. A more precise annual timing of calls and deadlines in combination with timely and precise information would be very much appreciated for the future. It is important that the European Commission and the National Agencies have a thorough understanding of the universities' needs for successfully implementing the Programme.

Institutions, in their endeavours to implement the new Erasmus+ Programme structures, are struggling with digital tools that are not working properly (Mobility Tool, Inter Institutional Agreements, Online Learning Agreement). Given the current context of increasing digitisation, it would be of great help if this situation could improve.

The analysis of survey data concerning **mobility management shows that the Universities of the Coimbra Group network experienced quite a dramatic change** in their daily working routine, due to the sanitary measures. Staff worked mostly remotely from home and there was a wide switch to digital forms of counselling, virtual office hours and information sessions. The enforced absence from the workplace accelerated the digitalisation of management processes and the adoption of digital educations formats with intensified exchange with colleagues at partner institutions via collaborative platforms such as Zoom or Teams.

Almost all institutions reported that despite the sometimes dramatic decrease in mobility, **the workload has not decreased, but rather increased substantially**, mainly due to the following reasons:

- There were no procedures in place to manage a pandemic such as Covid-19, and there is still a need for re-planning; the management of mobility in many different scenarios has become the 'new normal'.
- Counselling as part of the work increased dramatically as specific information had to be given to each individual student (and staff member) who wanted to go on a mobility trip; procedures and rules at partner institutions were constantly changing due to changing regulations and security measures.
- During the last two academic years, the number of students cancelling their already planned mobility has multiplied and, consequently, the changes and/or adaptations of learning agreements have also multiplied.
- Students' cancellations led to more complex financial administration and documentation procedures (e.g. handling of Erasmus+ *force majeure* cases).
- The workload has increased due to the need for alternative solutions to avoid face-to-face contact, to manage work from home and to convert all paper documents into digital form. Some staff have been involved in developing crisis communication plans.

Several Coimbra Group universities have developed plans to mitigate these challenges, such as setting up an 'Epidemiological Operative Coordinating Body' or developing central website with relevant information. Here are some examples:

- At the UNIVERSITY OF PADOVA the International Relations Division prepared an official risk mitigation plan and the Academic Senate deliberated that all virtual mobility flows should be recognised in terms of credits and study periods.
- The UNIVERSITY OF EDINBURGH developed a new 'Delivering Mobility for All Strategy 2020-25' which provides an institutional roadmap for mobility activities.
- At VILNIUS UNIVERSITY all incoming students on self-isolation were provided with three paid meals a day.

However, the majority of responding universities reported **that they do not foresee a reduction in students' mobility flows in the mid- or long-term perspective.** On the contrary, some of them are already witnessing or predicting an increase in the number of applications.

When examining the survey questions about **how to preserve and boost academic exchange in mid-term perspective**, respondents highlighted several measures:

- Improve the digital offer and introduce innovative educational tools;
- Offer and intensify Zoom information sessions for students and other online support measures such as written tutorials, several Q&A sessions, etc.;
- Work to extend projects of virtual mobility and exchange (such as Collaborative Online International Learning, etc.);
- Guarantee more flexibility, for example introducing blended mobility or in some cases implementing specific national flexibility;
- Ensure more transparent communication and fast decision-making.

The following practical examples of **specific actions** taken during the observed period are worth mentioning:

- Strong collaboration with the Erasmus Student Network (ESN) to help students with different matters (e.g. transfer of repatriated students' belongings) - UNIVERSITY OF BARCELONA;
- Students' Association developing mental health and well-being support for their students and MyJourney 24/7 digital hub for all their students raising their awareness about mobility options, pre-departure support, support during their stay and return and reintegration support - UNIVERSITY OF EDINBURGH;
- Possibility for students to go to the Covid-19 test centre at KU LEUVEN for a free test on campus. Registration is done by students of biomedical sciences, the Covid test itself is carried out by students of medicine. Over 300 students can be tested per day - KU LEUVEN;
- Working on implementing mobility as an integrated part of every degree programme - UNIVERSITY OF BERGEN;
- Flexible funding options at national level - EÖTVÖS LORÁND UNIVERSITY BUDAPEST;
- Financial support for mobile students to help cover the costs of PCR tests and more flexibility in the selection and organisation of mobility - ALEXANDRU IOAN CUZA UNIVERSITY OF IAŞI;
- Closer collaboration with the Faculty of Open and Distance Education in the adaptation to digital technologies - ISTANBUL UNIVERSITY;

- Arrangement of one-to-one meetings with students and simplification of administrative processes – ISTANBUL UNIVERSITY, JAGIELLONIAN UNIVERSITY IN KRAKÓW and UNIVERSITY OF COLOGNE;
- Several Q&A sessions, a specific promotional webinar for incoming students and recognition of credits gained in virtual mobility - UNIVERSITY OF PADOVA;
- Extra hours of virtual drop-in counselling and information sessions starting with the incoming students' nomination and throughout their application/preparation phase and stay - UNIVERSITY OF GRAZ;
- Grant for virtual mobility, permission to attend courses at both sending and receiving institutions and a more flexible process for credits recognition; Erasmus+ co-funded [UNISAFE](#) project aimed at increasing the safety and security of mobility participants - UNIVERSITY OF PAVIA;
- New protocol for monitoring students on mobility that includes lessons learnt in the recent period - UNIVERSITY OF POITIERS.
- Confirmation of a dedicated budget to assure bonuses for the most performing mobile students (both Erasmus and Overseas) and the introduction of incentives for the mobility of students enrolled in the double degree programmes (see section on Teaching and Learning) - UNIVERSITY OF SIENA.

ÅBO AKADEMI UNIVERSITY mentioned explicitly the positive value, during these complex times, of sharing problems and solutions with colleagues from the Coimbra Group Academic and Exchange Mobility Working Group.

The survey also shows how, during the pandemic, **the concept of virtual mobility has become increasingly popular in the universities of the Coimbra Group, and it was widely used in order to reduce the impact of travel ban and the consequent inability to implement mobility abroad**.

Feedback from Coimbra Group universities reveal, in general, a positive impact of virtual mobility, the latter seen, initially, as the only imaginable way to buffer the situation, while at a second stage several universities - but not all - included/considered including it in their post-pandemic training offer.

It is widely believed among Coimbra Group universities that **virtual mobility can be a valid tool to strengthen physical mobility, particularly in pre-departure and post-physical mobility**.

A particularly successful example is that of the UNIVERSITY OF COLOGNE where, in winter 2020, about twenty courses for virtual international exchange students from intercontinental partner universities started and the number of applications received turned out to be much higher than the available places (150 for 60 seats). All the students involved were enthusiastic and the feedback from the teachers was overwhelming, as the international students proved to be extraordinarily motivated and high performing.

Virtual mobility has played a key role in language programmes and in countries that are far away and more difficult to reach, especially in the event of a pandemic, although this type of virtual mobility cannot replace physical mobility due to the loss of connection with the local culture.

In addition, it appears evident that successful virtual mobility and blended learning require committed academics willing to take on additional workload and develop new formats with colleagues from partner universities. To make the most of virtual mobility, students will need special mentoring, while teachers will need specific training to engage in these formats.

At the same time, it is necessary to highlight the students' feedback, which was not always positive. Some of them, usually those who have already decided to spend a period abroad, are not very interested in the possibility of virtual mobility as it would deprive them of a crucial part of the experience. Others, on the other hand, would benefit from virtual or mixed mobility in the sense that they would finally be convinced to undertake a mobility experience abroad.

Figure 1: It is evident how strongly the pandemic has reduced the number of mobilities in almost all the 30 Coimbra Group universities that answered the survey.

Has your university experienced a decrease of mobility of students and staff in the first semester of 2020/21?

No
3,4%

Yes
96,6%
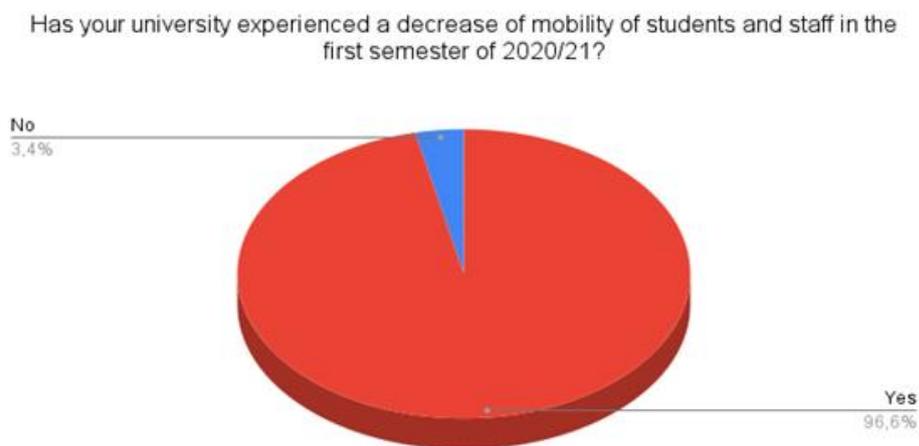
Figure 2: About 80% of the 30 universities taking in the survey fall in the range between 30 and 70% decrease; this can be considered the most representative situation at Coimbra Group level and also more likely at European level. Taking into consideration the distribution of universities in different boxes (percentage range), it can be, additionally, noted that most of the Italian group is in the 30-50% range, the universities from northern countries are quite equally distributed in the 30-50% and 50-70%, ranges, while the UK universities are mainly in the highest percentage range.

Has your university experienced a decrease of mobility of students and staff in the first semester of 2020/21? If YES, please indicate if the decrease has been:

Between 10 and 30 %
3,6%

More than 70 %
14,3%

Between 50 and 70 %
39,3%

Between 30 and 50 %
42,9%
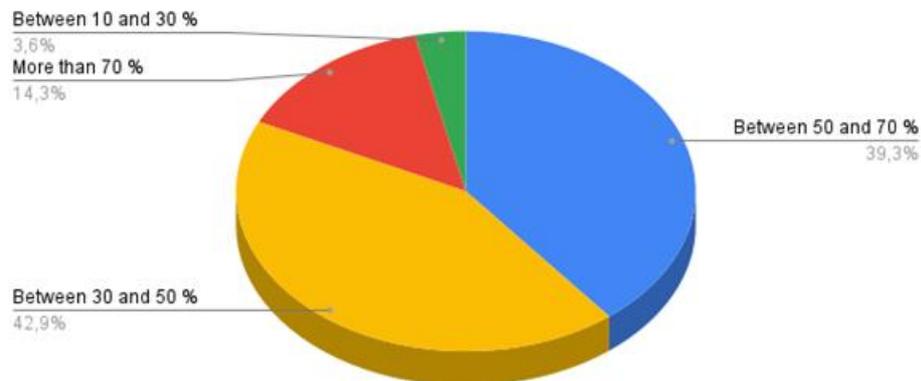
Takeaway messages

- There should be particular emphasis on the use of digital communication tools and virtual forms as complementary to the physical schemes of exchange and mobility; however, there is a strong belief that the physical component of mobility is and will continue to be crucial for in-depth development of intercultural competences in spite of the inevitable digitalisation of universities;
- More guidance and more flexibility in the rules (both financial and administrative) would help to achieve the goals envisaged in the new Erasmus Programme;
- A quick and proactive reaction of the universities to new challenges is crucial and functional to keep academic intercultural connections alive and boost mobility, both virtual and physical;
- Virtual mobility and blended learning can have value and legitimacy, particularly in the context of pre-departure and post-physical mobility, assuming a strong commitment from academics is present.

3. Development Cooperation

Introduction

The Covid-19 pandemic has not only severely affected in the implementation of recurring activities at universities in the Global North and Global South, it has also posed major challenges to international cooperation. Major disruptions are observed especially in the field of development cooperation and capacity building, which seeks to promote knowledge, skills, structures, systems and leadership in an integrative way. For a number of externally funded capacity building projects, the pandemic and the travel restrictions entailed a postponement of planned events. As a result, exchanges with partners in the Global South has been taking place primarily online, e.g., in the context of virtual conferences, working meetings or joint teaching events. **The implementation of existing capacity building projects was often carried out online during the pandemic, while the virtual space was hardly ever used for initiating and developing new projects.**

Method

20 universities answered all or part of the questions in the section dedicated to the development cooperation dimension of Coimbra Group universities. This report reflects the findings from the questionnaire as well as ongoing discussions among practitioners from Coimbra Group universities in the field of Development Cooperation.

Challenges in Development Cooperation

In addition to the well-known challenges in international exchange (e.g. time-zone differences, communication problems due to technical hitches), the forced digitalisation of development cooperation activities has led to some specific difficulties. Before the pandemic, online meetings with partner institutions in the Global South were not a common practice, and the use of IT tools was complicated due to data protection. As a result, **development cooperation activities have suffered from significant delays in their implementation and had to go through a re-thinking process of methodologies.**

As regards the management of activities, the Covid-19 crisis has forced universities to rely further on the use of collaborative, virtual platforms (Teams, Zoom etc.) - for the joint management of projects. This resulted in a number of challenges primarily of a technical nature: communication difficulties were sometimes exacerbated by technical inadequacies (e.g., poor connection, background noise). Monitoring and quality assurance on site were also major issues, as these could be implemented digitally only in very few cases.

Positive & negative effects

Online meetings allowed higher education institutions to collaborate on projects with countries around the world on an equal footing. As a positive effect, it was often observed that **online events manage to reach a larger audience** than face-to-face events. It also allowed partners to meet **more regularly** during the preparatory, implementation, and follow-up phases of the activities. Furthermore, they facilitated the involvement of **external stakeholders** who may otherwise not have had the time or budget to travel to meetings and/or events. They also put less strain on participants' budgets than face-to-face events, while decreasing **intercontinental air travel**.

On a less positive note, the omnipresence of online activities resulted in a **digital work overload**, which at times led to a lack of commitment and consistency. Besides, the 'soft' side of international cooperation - that is, the fostering **of intercultural competences** through personal encounters - could only be fostered very marginally. The use of interactive and participatory elements as well as joint teamwork proved difficult, especially at the beginning of the move to online. However, as staff became increasingly more familiar with digital tools, the quality of the virtual activities improved. **Field work has declined sharply due to travel restrictions.**

Another specific problem concerns infrastructure: **academic staff in the Global South**, including professors, usually **share their office space with other colleagues**, whereas students would often need to connect from their homes or public places. In some cases, partner located in the Global South **would not have the necessary technology** or **would be unable to raise sufficient funds** to buy, for example, a laptop with sufficient camera quality or units for mobile internet. These have obviously been an obstacle to the virtual exchange. Despite these challenges being a well-known fact, only just under a quarter of the 19 Coimbra Group universities who responded to the Development Cooperation section of the questionnaire, said they provided extra funds to maintain the technical infrastructure in their partner countries (see chart below).

Did your university provide a specific budget for a technically stable learning/exchange environment in partner countries?

Yes
26,3%

No
73,7%

Number of responses: 19
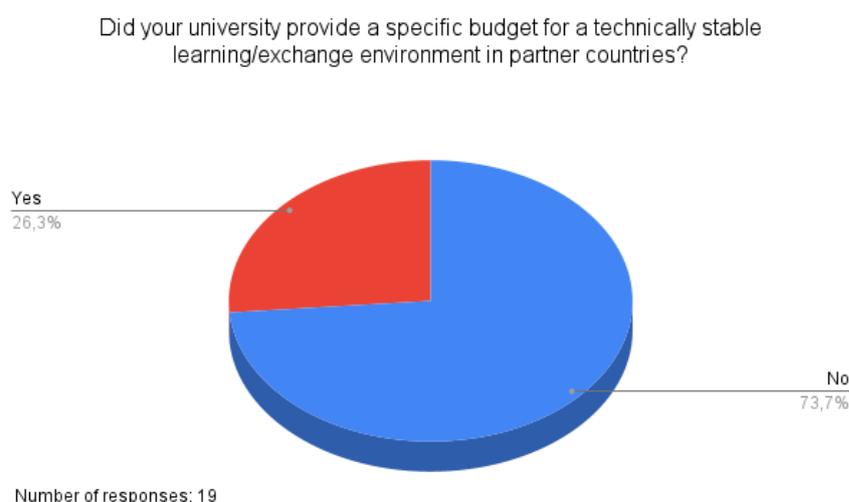
The lack of provision of extra funds is most probably due to the fact that many capacity building projects are externally funded, with part of their budget being earmarked for

purchases of technical equipment (and therefore not requiring additional funding). In other cases, technical equipment was indirectly funded because participation fees for online events were reduced or abolished.

Good practice examples

DIES ProGRANT (UNIVERSITY OF COLOGNE)

One good practice example is the DIES ProGRANT which the UNIVERSITY OF COLOGNE offered for international researchers in cooperation with partner universities in Asia, Africa, the MENA region, and Latin America. The trainers and the management team for each region consisted of colleagues from at least four countries. With very intensive communication and planning in advance and due to more flexibility in the programme management and setting, all seminars in 2020 and 2021 were held successfully. The UNIVERSITY OF COLOGNE reports that the usage of digital tools remarkably changed the way of cooperating with partners.

International Research Managers Development Programme (DURHAM UNIVERSITY)

The International Research Managers Development Programme, funded by ARMA (*Association of Research Managers and Administrators*) and AAS (*African Academy of Sciences*) was a practical skills and cultural learning programme bringing together six international teams of research management professionals from Africa and the UK. It aimed to build the capacity of research management staff through knowledge sharing and the development of tools and resources. DURHAM UNIVERSITY led a team made up of staff from three North East Universities, and this team worked together with a team from research institutions across Kenya.

Winter school on the Covid-19 pandemic in Africa (UNIVERSITY OF WÜRZBURG)

A similar model was used to organise the four-week virtual Winter School ['Global Change and the COVID-19 Pandemic in Africa – Chances or Challenges?'](#), that took place in February 2021. The concept has been developed by the members of the Coimbra Group Development Cooperation Working Group, under the overall coordination of the UNIVERSITY OF WÜRZBURG (Germany). In line with the working group's mission to promote the internationalisation of higher education for the purpose of sharing knowledge and ideas, the Winter School brought together experts and students from European and African universities to reflect on the impact of Covid-19 in different areas from an intercultural perspective. During the Winter School, over 70 students enrolled at Coimbra Group and African universities discussed about impacts, challenges and responses related to Covid-19 and Africa with a number of experts from Coimbra Group and African universities. Divided into five thematic working groups (economics, ecology, anthropology, education, gender), the students received guidelines from one African and one European expert before starting to work virtually on the assigned tasks in a collaborative and interactive manner.

The event, which was originally planned to be held in person, demonstrated the flexibility, dynamism and the collaborative teamwork possibilities of online training in the field of capacity building.

Conclusion

The Covid-19 pandemic has challenged existing structures and accelerated the development of new methods and approaches. **In the area of virtual exchange and online training, Coimbra Group universities were able to make great advances. At the same time, fundamental issues such as quality assurance and monitoring of capacity building projects in the digital age require further reflection.** The postcolonial division of the world is another major challenge, which manifests itself mainly in terms of technical access (infrastructure, internet coverage), representation and participatory involvement. These issues ought to be overcome in order to achieve true global inclusion in education.

Key takeaways for the Higher Education Community

When it comes to capacity building projects conducted virtually, the analysis of the development cooperation activities of the surveyed universities clearly points to the following **challenges**, which are caused or exacerbated by the Covid-19 pandemic:

- different time zones;
- connectivity issues in the Global South;
- inadequate infrastructure in the Global South;
- language communication problems;
- difficulties in the monitoring of projects.

These challenges have led to a number of **negative effects**:

- lower learning impact;
- less commitment;
- less physical interpersonal encounters;

- lack of fostering of intercultural skills;
- inability to carry out field work projects.

However, the **positive effects** appear to be as follows:

- increased flexibility of bilateral and multilateral exchanges;
- increased frequency and regularity of meetings;
- easier involvement of external stakeholders;
- financial savings;
- less intercontinental travel.

Recommendations for policy makers

- The pandemic has brought a tremendous change in the use of digital technologies and virtual environments within capacity building and cooperation for development projects. Considering the positive effects of this change, **it is desirable to design future development projects combining, in a balanced way, collaborative and innovative virtual components in between face-to-face activities.**
- **Project design should include, simultaneously, 1) contingency plans** to promptly tackle those emergencies that would put on hold in-presence activities, **2) an accurate analysis of how well equipped the partners involved are** to ensure they are able to reach the expected results while operating within virtual environments, **3) an analysis of the external factors** that are likely to impact virtual activities.
- In order to promote effectiveness and efficiency of the use of digital technologies and virtual environments within projects and sustainable inclusive development, **higher education institutions should advocate for the increase of structural support to build up solid infrastructures in the Global South** (e.g. internet connection as per coverage and costs, electricity networks, etc.), and **for the promotion of equity and inclusion in terms of access to critical resources for vulnerable groups and for those institutions located in remote areas**.
- The good practices shared have highlighted that youth is better prepared for virtual environments and keen to contribute to sustainable development challenges. **It is therefore recommended to further increase the involvement of students in development cooperation projects in order to foster their leadership skills.** For the same purpose, **it is advisable to advocate at donors' level for funding programmes to include a budgetary provision specifically dedicated to equipping partners in the Global South (when applicable) so as to enable them to be fully operational in virtual environments.**

4. Research

Methods

28 universities answered all or part of the questions in the section on Research of the second Coimbra Group questionnaire on Covid-19 impact and adaptation. We performed a content analysis of the answers, in order to identify the main themes for discussion. When interpreting the results, we need to pay attention to important differences between universities, in terms of size, areas or fields of study covered, number of PhD students, degree of internationalisation, as well as national regulations and cultural differences (especially in terms of high context-low context dimensions). Therefore, the results are neutrally presented – our aim was to synthesize all types of actions and corresponding themes, independent of their weight/number of appearances, so that we could offer a comprehensive account for future strategies.

Introduction

The Coimbra Group survey undertaken in summer 2021 revealed the vast majority of on campus research and research support is resuming under the direction of protocols designed by dedicated university Covid-19 task forces, with social distancing, wearing face masks and working from home where possible. Where remote working was formerly compulsory in some cases, it has transitioned to recommended where possible. Many researchers are continuing to work remotely on data analysis, virtual project meetings and conferences, reports, and publications while administrative offices are largely working from home. This has meant that research that can be conducted from home has progressed at a faster pace compared to fields that require access to laboratories and infrastructure. The limitations on capacity due to social distancing, cited by several universities as approx. 50%, means that in many cases laboratories have a lower occupation level and therefore research cannot progress at full speed. To support the safe resumption of activities, universities are offering rapid Covid-19 testing to staff accessing campus (UNIVERSITY OF GRAZ) or require Covid-19 vaccine or test health passes to access campus (AARHUS UNIVERSITY).

In addition to the capacity issues cited above, the following issues continue to impact the progression of research, though to a lower extent than one year ago:

- Increased caring responsibilities still affect a number of staff, reducing the time they have available to progress their research projects and research support, this is discussed in greater detail in a dedicated section below **'Impact Inequality in Research'**
- The impact is felt most severely in university medical centres where studies involving clinical trials, patients or elderly people are not always authorized due to access restrictions to hospitals and nursing institutions. Human research now requires a Covid-19 risk analysis in many institutions, to be reviewed by their ethics committee. Work that involves handling of human tissue can also be limited due to the challenges associated with Covid-19 screening of samples, for which not all institutions have in-house capability. This impact is reinforced by the secondment of academics in the

medical and biomedical fields to the frontline of the pandemic response, allowing them less time for their research activities.

- There has been a significant impact on projects that feature international field work or infrastructure. In some cases, field work or collaborative research with developing countries has been disproportionally affected due to tighter travel restrictions for these countries, compromising inclusive global research missions. In the UK specifically, collaborative projects with developing countries were drastically affected due to Official Development Assistance (ODA) funding cuts to mitigate the economic impact of the pandemic, in some cases conversely arresting research examining the emergence of new variants of Covid-19 abroad.

- International conferences, meetings and networking cannot currently take place on site, reducing the capacity to progress projects and develop effective international collaborations. These are largely directed by Covid-19-specific national and institutional travel policies, which adopt a risk-based approach and establish internal approval processes. In addition to the career development setbacks for early career researchers in losing opportunities to disseminate their research and build support networks, there has been an apparent drop off in the advertisement of postdoctoral research roles abroad, reducing their career opportunities. Similarly, universities have encountered issues with recruiting from abroad under the current circumstances. Restrictions on global travel has led to internationally recruited researchers not being able to start their positions as planned at the university, placing additional stress on existing staff. This is especially noticeable in the case of Marie Skłodowska-Curie Actions, where it is mandatory to recruit researchers from outside the home country.

- The transition to digital teaching led to significant reduced time available to research for scientific staff.

- In some cases, there were limitations to purchasing materials and equipment due to either reagent shortages or a suspension of payments while universities evaluated the financial impact of Covid-19.

Interestingly, a number of universities reported an increase in grant applications and publications over the past year. There are some indications that this level of research productivity is not proportionally distributed across researchers, due to the challenges outlined above, and thus further analysis will be needed to determine how the unequal impacts of the pandemic can be mitigated in researcher profile assessment for funding and promotion into the future. Research Support Officers and their colleagues reported a higher administrative burden arose from this increase in grant applications combined with supporting applications for research funding contract extensions. This was further exacerbated by the delay in the launch of Horizon Europe and its associated programmes and the emergence of shorter proposal preparation cycles in both European and national programmes (e.g. 3 months between a call opening and its deadline, rather than 6 months).

Researchers are still adjusting to the costs of delays and project failures because of the pandemic, and **it is likely the impact will have to continue to be monitored and mitigated into the long term. Many universities have noted the prevalence of pandemic burnout among staff which calls for additional support at all levels.** Currently universities are seeking to support research project extensions and flexibility as much as possible, though find they are often limited by funding.

Mitigation Measures for Research

As outlined above, in most cases universities have recruited a Covid-19 task force from expert academic and administrative staff to advise on the safe operation of research and research support, in many cases designing protocols for the safe use of workspaces and infection control measures on university campuses. For example, DURHAM UNIVERSITY has implemented one-way systems, sanitisation, access control, ventilation improvements, air quality monitoring and risk-based protocols to ensure that social distancing and safety is maintained within government guidelines. In some cases, research facilities have been physically or procedurally reconfigured to optimise their capacity when working within these constraints. This has required investment in infrastructure for a number of universities. Universities have also increased safety and supported staff by offering Covid-19 testing and vaccination on site (e.g. UNIVERSITY OF PAVIA). Recognising psychological risks as well as physical safety risks has been prioritised in a number of universities, with many rolling out enhanced Employee Assistance Programmes offering counselling and advice on maintaining fitness and well-being (e.g. JAGIELLONIAN UNIVERSITY IN KRAKÓW). In work resumption plans increased flexibility has been offered to staff who are at high risk, or who have family who are at high risk (e.g. UPPSALA UNIVERSITY, TRINITY COLLEGE DUBLIN). In some cases, it has been challenging for management and task forces to stay abreast of rapidly changing national regulations; however, these efforts show that universities have moved away from crisis mode and into medium-term management of the pandemic. **We recommend universities continue to prioritise staff safety and draw from evidence based safe working practices.**

To mitigate the aforementioned challenges to research projects, a number of universities have sourced emergency Covid-19 mitigation funds for research. These funds are used to extend research projects to catch up on lost time, and may be spent on consumables, equipment, or personnel costs. The need for personnel costs was particularly highlighted as these are often not supported by national and EU funding agencies**, an issue we recommend funding agencies examine**. For example, the UNIVERSITY OF BERGEN has supported the prolongation of the paid time for PhD candidates in order complete their dissertation work and distributed additional financial support to faculties to hire additional lecturers, feedback has indicated that this initiative has had a strong positive impact on researcher's capacity to continue their work. The UNIVERSITY OF BRISTOL has stepped in with financial support to try to rescue projects affected by ODA cuts. The UNIVERSITY OF GRAZ has also offered additional funding for projects where the cost was not covered by a funding agency. Where additional budget is not available some Universities have adjusted and redistributed existing funding, for example the ISTANBUL UNIVERSITY allows academics to use their regularly allocated conference travel budget to participate or organise online conferences. These efforts were supported in a number of countries by government's distributing additional funding to universities to mitigate the pandemic impact (e.g. Ireland, Netherlands, UK). At the UNIVERSITY OF GRONINGEN and the UNIVERSITY OF POITIERS, the government and the board of the university have provided financial support to extend contracts of temporary staff (postdoctoral researchers, tenure track academics and PhD students) where possible for the delays in research caused by the Covid-19 on the basis that these groups are suffering most career wise due the Covid-19 crisis. For permanent staff, the enhanced digital teaching load has been alleviated by hiring additional staff.

Until now, mitigation measures by research funding agencies have been limited to postponements or extensions, simplifications, and flexibility in budget management. These are highly welcome and necessary measures, but not sufficient alone. While a number of funding agencies offer project extensions, rarely has additional funding been offered to support the extension, creating a crisis in the personnel costs needed to truly rescue the research project. In one exception, the German Research Foundation (DFG) offers the possibility to apply for additional costs incurred for ongoing projects. Because of this - to a limited extent - contract extensions for employees are possible and these applications for additional costs can be submitted with minimal bureaucracy. **We recommend that other funding agencies examine this approach.** In grants awarded by the European Commission it is a particular issue for Marie Skłodowska-Curie Actions, especially Individual Fellowships where the additional salary cost for the period of the extension should be covered as a practical measure. **We also recommend increased certainty about deadlines and schedules of competitive calls to allow researchers and research support staff to best prepare and engage with these opportunities.**

Universities have also underpinned their mitigation strategies with simplification and improved ICT capabilities as far as possible. Staff have been provided with suitable home working equipment in many cases and occasionally also internet connections (e.g. UNIVERSITY OF BARCELONA). Among others the UNIVERSITY OF COIMBRA extended the use of electronic signatures for all possible processes. JAGIELLONIAN UNIVERSITY IN KRAKÓW has also transitioned to electronic document circulation and introduced online signatures for research and administrative staff alike. Research contracts across universities have also been updated to include a 'Covid clause' to address potential delays and in general under administrative backlogs Covid-19 related research contracts have been prioritised. While Research Support Offices have effectively transitioned to holding information sessions and workshops online over the past year. In an example of embracing ICT solutions, the SAINT PETERSBURG STATE UNIVERSITY (**SPbU) Research Park** has developed an application system that allows researchers to submit applications to the University's Resource Centers remotely and quickly receive information relating to project actions, measures, and results.

In addition to these measures researchers and universities have strived to support national and international efforts to manage the pandemic, from developing models and novel therapeutics, to forming scientific expert groups to advise government on epidemiology, diagnostics and treatment (e.g. UNIVERSITY OF TARTU). And in an approach to improving public knowledge and awareness of research, the UNIVERSITY OF COIMBRA has created a platform 'UC against COVID' to highlight relevant research performed there during the pandemic. **We recommend that universities capture the positive impact of research and researchers during the pandemic and disseminate this information to the public and to policy makers.**

Impact Inequality in Research

In addition to the previously mentioned impacts on early career researchers and inclusive global missions, the Coimbra Group of Universities has observed prevalent gendered impacts of the pandemic in research. A number of members have noted that female staff were disproportionally affected by childcare, home-schooling and other caring responsibilities compared to their male counterparts, allowing less time for research activities, and reducing productivity metrics such as publications and grant applications. There were some variations between countries with lesser impacts cited where schools remained open throughout the pandemic. Notably, while several universities noticed a general increase in grant applications, they concurrently observed a reduction in female participation, this concerning trend may lead to very long-term impacts for women unless substantial mitigation measures are taken by universities, funders and policy makers.

The unequal impacts for caregivers and early career researchers are currently being widely discussed among universities in activities ranging from open faculty sessions (e.g. UNIVERSITY OF BRISTOL) to research committee meetings (e.g. DURHAM UNIVERSITY). Interestingly there is currently widespread movement in Equality, Diversity and Inclusion initiatives across members which creates an opportune moment to substantially adjust institutional policies to account for these raised issues. A number of universities (e.g. UNIVERSITY OF BOLOGNA, CHARLES UNIVERSITY IN PRAGUE and UNIVERSITY OF BRISTOL) have cited an intention to methodically study the impact of Covid-19 from the lens of diversity and inclusion and incorporate their findings into their Equality, Diversity and Inclusion programmes. UNIVERSITY OF COIMBRA is already offering targeted mentoring and support to female grant applications to help support engagement there. **We recommend that universities, funders, and policy makers rapidly progress with analysis of their respective cohorts and proceed to action to mitigate against any observable inequality.** We would also like to draw attention to the efforts of KU LEUVEN to address the impact of Covid-19 on productivity when evaluating researchers and research projects and **recommend similar adjustments to evaluation procedures are considered across universities, funders, and policy makers**:

Case Study: Adaptation of Researcher Profile Assessment at KU LEUVEN

KU LEUVEN implemented the following changes to their assessment procedures to account for the impact of the pandemic on researcher careers:

- Applicants should not hesitate to describe the impact of the Covid-19 pandemic on their previous research and results, or on the preparation of new applications, in their CV ('career break' or 'difficult circumstances') or the project description.
- Interviews and/or presentations are organized online.
- Evaluators will explicitly be asked to consider Covid-19 impact issues seriously.

The Future of Research

Induced by the necessity for staff and faculty to work from home most universities permanently digitalised administrative processes and communication. Also, the investments in technology and the improved digital competence are expected to have a positive impact on research in the future and permanently improve:

- the efficiency of the administration and research support,
- the possibilities to work from home,
- the possibilities for networking and dissemination of results through online meetings and digital scientific conferences.

While the pace and status of the digitalisation of administrative processes has been heterogeneous, most universities made decisive progress since the beginning of the pandemic. Researchers report notably quicker and simplified office procedures. Research support officers benefit for example from new systems for project documentation (e.g. FRIEDRICH SCHILLER UNIVERSITY JENA) or systems for electronic project management (JAGIELLONIAN UNIVERSITY IN KRAKÓW).

Surveys show (e.g. UNIVERSITY OF COLOGNE) that after the pandemic faculty and staff will want to spend considerably more of their working time at home. To enable this, several institutions permanently included working from home in their regulations (e.g. EÖTVÖS LORÁND UNIVERSITY BUDAPEST, UNIVERSITY OF COLOGNE, UNIVERSITY OF GRONINGEN) and some universities even started planning investments in the reconfiguration and effective use of physical workspace (e.g. DURHAM UNIVERSITY, UNIVERSITY OF TARTU). As a result, researchers and administrative staff will benefit from a better conciliation between work and family and universities will considerably reduce their carbon footprint with shorter commuting distances. On the other hand, research requires face-to-face exchanges, and the universities consider them as irreplaceable for motivation and team spirit. As a result, a balanced combination of working on-site and from home is expected to become the new standard. **We recommend that universities rapidly include working from home in their regulations while recognising the practical and well-being related challenges of hybrid working.** Obviously, the extend of hybrid work will depend on the nature of the research activities. Field work and laboratory research is expected to return to similar conditions as before Covid-19. However, it has also been tried to improve remote control and monitoring possibilities for experimental systems (e.g. ISTANBUL UNIVERSITY).

As permanent benefits of digital communication, many universities report an improved connection and exchange among researchers and with research support (e.g. UNIVERSITY OF BARCELONA). The experience with digital meetings and workshops, online trainings and digital scientific conferences (e.g. FRIEDRICH SCHILLER UNIVERSITY JENA, ISTANBUL UNIVERSITY) shows that these events benefit from an improved and wider accessibility, removing borders between countries as well as considerably reduced time, costs and carbon footprint for traveling. At the same time, physical meetings and conferences will stay necessary for networking and brainstorming. During the pandemic traditional meetings are missed especially for newly recruited people and the risk of a generational divide between more experienced of researchers and young scholars is seen. In the future, digital events will be an efficient and accessible addition to traditional formats which will be selected and arranged more carefully.

Key Recommendations

- We recommend universities continue to prioritise both physical and psychological staff safety and draw from the available evidence based safe working practices.
- As long-term impacts on research and researchers are expected, we recommend that universities, funders, and policy makers undertake continuous analysis and mitigation planning into the future.
- We recommend adjustments are made to researcher evaluation procedures across universities, funders, and policy makers to account for inequality in impacts between researchers.
- We recommend that funding agencies consider providing additional funding to support project extensions and rescue results. Personnel costs are essential for a project to extend.
- We also recommend increased certainty about deadlines and schedules of competitive calls to allow researchers and research support staff to best prepare and engage with these opportunities.
- We recommend that universities rapidly include working from home in their regulations while recognising the practical and well-being related challenges of hybrid working.
- We recommend that universities capture the positive impact of research and researchers during the pandemic and disseminate this information to the public and to policy makers.

5. Doctoral Studies

Introduction

Universities throughout Europe have proven that they are learning organizations ready to adapt to external disturbances. This is also true for the doctoral training phase. A doctorate is a task for several years with the aim of breaking new scientific ground. Doctoral candidates contribute actively and substantially to the universities' overall research activities. At the same time, they aim to be awarded a degree. Therefore, they are also in a qualification phase, which is usually limited in time. Even under normal circumstances, the doctorate can be a great challenge with the need to balance expectations on the quality of the independent research activities, personal professional development requirements and individual needs.

More than one year into the pandemic, it is a good time to assess the additional Covid-19 related effects on doctoral education. How have European universities adapted? Which protocols and activities will likely remain in place after the pandemic? Have universities taken measures to deal with similar disrupting situations in the future, e.g. by setting up protocols on how to avoid a slowdown of doctoral theses? And how do universities cope with insecurities and impact on the well-being, equal opportunities, supervision practices and the mobility of early-stage researchers?

Method

25 universities answered all or part of the questions in the section on Doctoral Studies of the second Coimbra Group questionnaire on Covid-19 impact and adaptation. We performed a content analysis of the answers, in order to identify the main categories or themes for each question. The tables, which are included at the end of each paragraph of our report, offer a synthetic view of these themes, with the number of mentions for each theme (the text from answers was classified into one of the themes based on common meaning, expressed with synonyms or similar words).

When interpreting the results, we need to pay attention to important differences between universities, in terms of size, areas or fields of study covered, number of PhD students, degree of internationalisation, as well as national regulations and cultural differences (especially in terms of high context/low context dimensions). Therefore, the results are neutrally presented – our aim was to synthesize all types of actions and corresponding themes, independent of their weight/number of appearances, so that we could offer a comprehensive guide or reflection toolkit for future strategies. Some universities provided longer answers with more than one item or example for one question. Therefore, the total number of mentions for all the themes is higher than 2.

Adaptation in protocols and activities

To this day, **the pandemic has been a main technology driver and prime mover for the digitalisation of the PhD**. All universities adapted by facilitating online PhD defences, by digitalising administrative processes, and by delivering online training.

Right after the closure of universities, the biggest challenge in doctoral education was the handling of **academic procedures**. Meanwhile most universities facilitated non-contact thesis submissions and gained numerous experiences in running online PhD defences, viva voces and other forms of oral examinations. In the case of online defences, travelling of external examiners is no longer necessary and the participation of a larger and more diverse audience is possible. Therefore, **most universities plan to keep online defences as an option, but not as the regular practice**. The preferred scenario aims at having hybrid procedures in which certain members of the committee or external examiners may participate online (e.g. AARHUS UNIVERSITY, UNIVERSITY OF BERGEN, UNIVERSITY OF GRAZ, UNIVERSITY OF GRONINGEN). Some universities discuss to hold live defences in combination with online streaming in order to reach a wider audience (e.g. KU LEUVEN). Others will allow video conferencing for exceptional cases only (e.g. UNIVERSITY OF POITIERS). ÅBO AKADEMI UNIVERSITY reports that online or hybrid public defences have advantages in double degree agreements (Cotutelles), as they will make it easier to include a partner university. Generally, it seems that the emergency operating mode is over, as quite a number of universities have updated existing regulations and protocols to allow permanently for online defences or options for virtual participation (e.g. UNIVERSITY OF GRONINGEN, JAGIELLONIAN UNIVERSITY IN KRAKÓW, UNIVERSITY OF TARTU).

Postgraduate students at the UNIVERSITY OF BRISTOL currently have the option of including a Covid-19 statement in the examination copy of their thesis, in which they have the opportunity to summarize the impact of Covid-19 restrictions on their research activities and on the content of their thesis. This may be a good tool to counter the fear of doctoral researchers of underperforming, despite putting a lot of effort in rescheduling work plans and methods to account for different access to data than originally planned. At the same time, the statements could be a promising source to analyse the effects of the pandemic on the scientific work and outcomes of the Covid-19 generation of doctoral researchers.

The **digitalisation of administrative processes** will definitely remain in place after the pandemic. At many universities, online procedures have been established for registration, enrolment, turning in doctoral progress reports, and submitting the PhD thesis. In fact, the UNIVERSITY OF TURKU has a paper-free administration, as all processes run digitally. It is also remarkable to see that the exceptional time of the pandemic pushed universities to give up longstanding academic traditions, which are currently scrutinised.

Example: At DURHAM UNIVERSITY**,** the thesis submission was due in both electronic and hard copy in pre-Covid times. During the pandemic, only electronic submission was possible, as staff could not access the university offices. Currently, the university reviews whether hard copies are needed in all circumstances in the future.

Online activities will also remain in place after the pandemic. The majority of universities plan to keep a mix of remote and on-site qualification offers for doctoral candidates, such as doctoral seminars, transferable skills workshops, peer debates and **professional**

development training (e.g. UNIVERSITY OF BOLOGNA, UNIVERSITY OF COLOGNE, ALEXANDRU IOAN CUZA UNIVERSITY OF IAŞI, FRIEDRICH SCHILLER UNIVERSITY JENA, UNIVERSITY OF PADOVA, UPPSALA UNIVERSITY). For instance, it is easier to have international guest speakers visiting in online seminars. Universities also made good experiences with blended learning and asynchronous activities, as well as bringing together doctoral researchers from different disciplines.

Examples: The Researcher Development Programme of the DURHAM UNIVERSITY has been reducing the length of their synchronous sessions and supplying more as asynchronous activities and content. They are still considering which sessions and events (if any) will return to face-to-face format.

The UNIVERSITY OF BARCELONA introduced a virtual cross-disciplinary training due to the pandemic, which they plan to maintain in the future.

Online training is a benefit particularly for multi-campus universities (e.g. AARHUS UNIVERSITY, KU LEUVEN), **but also for regional, national and international collaborations** (including European University Initiatives and international research consortia). **Besides, online training is more inclusive, as it allows participation of doctoral researchers who are usually not on campus or who need more flexible times, e.g. for balancing research activities, caring responsibilities and further training.**

Example: Due to good experiences, the UNIVERSITY OF BRISTOL will only partially return to face-to-face formats. The 'digital first' approach will stay by keeping a mix of virtual and in-person open days, interviews via video-link, online welcome events, and a significant proportion of professional development delivered online.

Table 1: Q1. Which protocols and (online) activities will likely remain after the pandemic?

Nr.	Activity, action or measure that will remain	Number of mentions
1	Mix of onsite and online courses, progress reports, supervision	15
2	Online and hybrid (some members onsite and some – externals especially – online)	12
3	Digital administrative procedures	3
4	Doctoral seminars, workshops and peer meetings and discussions	2
5	Virtual open days and applicants' assessment	2
6	Hard copy for theses not needed/required for defence	2
7	Virtual cross-disciplinary training	1
8	Blended library resources	1
9	Online welcome and inductions	1

10	Covid 19 impact inside the thesis	1
11	Offer special space for doctoral students' interaction	1
12	Support for international candidates and quarantine management	1
13	Rescheduling and extensions of vivas	1

Preparation for possible disruptions of the future

Up to today, most universities have not established protocols on how to deal with similar disruptive situations in the future. Nevertheless, there is consensus that the gained experiences would be of use, if similar disruptions took place. The universities not only introduced temporary measures to deal with the situation, but they were also able to share their experiences locally, nationally, and internationally. There is agreement that the arrangements in place to support doctoral candidates during the Covid-19 pandemic have been largely successful (e.g. digitalisation of administrative processes, online supervision, remote defences and vivas).

Furthermore, **it became evident that generally implemented protocols to ensure structured supervision of doctoral candidates provide for a stable supervision environment.** For instance, annual progress reports and scheduled thesis advisory committees offer an opportunity to discuss delays and other challenges (e.g. UNIVERSITY OF COLOGNE, UNIVERSITY OF GRAZ, UNIVERSITY OF GRONINGEN, KU LEUVEN). In some cases, the supervisory committees were instructed to weigh the progress and results of the PhD researcher against the negative (or positive) impact of the pandemic, with the possibility to adjust research plans so that the doctorate is not delayed. In any case, regular consultations with the supervisor or supervisory committee are an efficient way to prevent the slowdown of theses, especially when they are complemented by temporary institutional arrangements, such as priority access to libraries, offices and labs.

After all, most universities are currently reviewing the impact of their ad hoc measures. The overall goal is to retain the most effective measures.

Examples: The UNIVERSITY OF BERGEN thinks about writing a report about the pandemic and the effects it had on PhD education, including the lessons learnt and what to consider in a similar disrupting situation. The UNIVERSITY OF PADOVA is working on a Guide to Pandemic.

Table 2: Q2. Has your university taken measures to deal with similar disrupting situations in the future, e.g. in setting up protocols on how to avoid a slowdown of doctoral theses?

Nr.	*Activity, action or measure that will remain*	*Number of mentions*
1	Most measures taken now could be adapted for similar disrupting situations in the future	7

2	Not explicitly	6
3	Working on a guide for the pandemic	4
4	Protocol for online defence in parallel with original protocols	4
5	Protocol for remote/online administrative procedures	4
6	Prioritize PhDs access to labs and supervision in times of crises	4
7	Protocol for remote supervision	3
8	Financial support for extensions in crises	3
9	Necessary steps will be taken when needed	2
10	Instructions for committees to take into consideration pandemic effects	2
11	Temporary measures to mitigate disruption will be reviewed and some retained for the future	2
12	Report written for the whole pandemic period	1
13	Virtual mobility offered as alternative	1
14	Supervisors training programme	1
15	Doctoral study HUB	1
16	Emotional helpline and psychological support	1

Impacts on the well-being and mental health of doctoral researchers

The Covid-19 pandemic has the potential to affect the well-being of doctoral researchers in a negative way. During a doctorate, there are particular challenges that need to be overcome in order to progress with the thesis. In fact, a 2017 study of the Belgian professor Katia Levecque suggests that doctoral researchers have about twice the risk of suffering from mental health disorders compared to other higher education students and the highly educated population.[1] Doctoral candidates report to be under constant strain. This situation can get worse in cases of high job demands, low job control, non-inspirational leadership styles of the supervisor, negative perceptions of a career outside academia, and conflicting work-family demands.

Having these general findings in mind, the pandemic increased both insecurities for doctoral researchers, as well as the pressure to deliver research results with high scientific quality in a limited amount of time and with unfavourable framework conditions. In the Coimbra Group survey, quite many universities have indicated that they are **monitoring the situation of their doctoral candidates**. On the one hand, there are universities that rely on data from national surveys on the situation of early-stage researchers, which include questions on the mental health (e.g. PRES – the Postgraduate Research Experience Survey in the UK, NACAPS – the National Academics Panel Study in Germany). On the other hand, quite a number of

universities either conduct regular university-specific surveys among their PhD candidates (e.g. University of Groningen, University of Tartu) or have set up a specific Covid-19 related survey asking about the current situation, research conditions and well-being (e.g. Aarhus University, University of Bergen, KU Leuven, University of Poitiers, University of Turku). The University of Poitiers offered a call-back service, which some PhD students made use of. In any case, the results are followed up by measures to address the identified challenges, which include stress, loneliness, and insecurities about future career perspectives.

The majority of Coimbra Group universities reports about **promoting well-being services**. Good examples are:

- Information offers on mental health and well-being on a dedicated university website (e.g. University of Graz, Friedrich Schiller University Jena), mailings and social media posts (Alexandru Ioan Cuza University of Iași),
- Online mental health and well-being resources for doctoral researchers and staff (Durham University), e-flyers for psychoeducational support (University of Coimbra)
- Courses on stress reduction, mindfulness, 'Practical Selfcare' and 'Survival skills for doctoral students'; mental health promotion webinars; individual coaching on well-being for doctoral candidates (e.g. University of Bergen, University of Coimbra, University of Graz, Charles University in Prague, University of Tartu, Åbo Akademi University).

Being aware of a **growing risk of isolation of doctoral researchers**, many universities have provided additional social events, such as walking, hiking and cycling tours, online book clubs, film nights, mediation, yoga and craft sessions, blogs, coffee breaks etc. (e.g. University of Bergen, University of Bristol, Durham University, Friedrich Schiller University Jena, KU Leuven). The **risk of isolation is even higher with international doctoral candidates**, especially when they arrived during the pandemic and had no chance to build up a social network.

The **leadership style of the supervisor** may have an impact on the well-being of doctoral researchers not only in times of crisis. This is why several universities addressed specifically the supervisors. For instance, KU Leuven writes: 'We asked supervisors to keep close relationships with their researchers and staff, as our data showed that junior researchers who work closely with their supervisors and feel supported by them, report fewer mental health issues, feel less isolated…'. The University of Tartu offered a stress management training for supervisors. The University of Graz raised awareness by dedicating the keynote at the ceremony for the biannual Supervisor Award to the topic of how supervisors may deal with mental health issues of their doctoral candidates.

When doctoral candidates face serious mental health problems, they need **professional mental health aid and psychological support.** Some universities can draw on national services (e.g. the Istanbul University refers to an online psychological counselling line by the Ministry of Health, the Uppsala University's health support is in line with offers of the Swedish health care system). Others have a long-standing tradition of free psychological support services at their university (e.g. the University of Barcelona, University of Padova, University of Pavia, University of Siena). Certain universities have add-on

services for early-stage researchers (e.g. two dedicated PhD psychologists at the UNIVERSITY OF GRONINGEN, a recently established team of Mental Health First Aid Workers at the FRIEDRICH SCHILLER UNIVERSITY JENA). In any way, most universities monitored an uptake of psychological support services during times of the pandemic.

Table 3: Q3. How is your university dealing with insecurities, isolation, deadlines, possible funding gaps, family, and health concerns of PhD candidates? For instance, do you have tools in place to monitor how the pandemic is affecting the mental health of your doctoral researchers? Are there any measures taken to support their well-being and if yes, who is strategically responsible for them? What actions are taken to secure equal opportunities for all doctoral researchers under pandemic conditions?

Nr.	Activity, action or measure that will remain	Number of mentions
1	Team of mental health aid and psychological support	15
2	Survey for assessment of the situation	10
3	Online information for mental help, including videos	7
4	Social events (walking, hiking, book clubs, film nights, yoga, craft sessions, blogs, coffee mornings)	6
5	Extra funding and extensions for PhDs with care responsibilities	5
6	Courses on stress reduction, mindfulness, practical self-care and coaching	4
7	Equality, diversity and inclusion policies under construction/review	3
8	Measures for protecting female PhDs or fathers in parental leave	2
9	Ensure equal attitude for female and male PhDs	2
10	Amount of published output is not crucial for vivas (to relief stress)	2
11	Emotional helpline (UCare and similar)	2
12	International tutoring (buddy-service) and intercultural meeting centre	2
13	Regular online consultation with responsible persons (vice-presidents for research, head of graduate school)	1
14	Dual career and family support	1
15	Rooms for writing	1
16	Annual gender report	1
17	Kids groups to support parents employees	1

| 18 | Therapeutic sessions, including psychodrama | 1 |
| 19 | Pastoral support | 1 |

Impacts on equal opportunities for doctoral researchers

Universities are very much aware of equality, diversity, and inclusion concerns. Yet almost one third of the responding universities stated that they have not taken any specific measures to address gender disparities due to the pandemic. On the one hand, a possible explanation is that there are general programmes for promoting equality and inclusion in place. On the other hand, it is expected that **the impact of the pandemic will only show in gender monitoring reports in the medium to long term**. Consequently, many universities have their policies under review while observing the development of the situation. Nevertheless, short-term measures are in place. They include the extension of deadlines for thesis submission and extra funding lines for PhD candidates with caring responsibilities. Some universities introduced special offers for PhD candidates with children, such as individual coaching, peer coaching as well as dual career and family support.

It is definitely important to monitor whether female doctoral researchers have systematically and disproportionately been hindered in their career and research activities. For now, the effects of the pandemic on doctoral researchers seem to be highly individual, as the PhD survey 'Quality in the PhD process 2021' of the AARHUS UNIVERSITY indicates: 'According to the results of the survey it is not only families with children that have been hindered due to the pandemic and closure of the university. Loneliness for those who have been working from home without a family have had a major impact on well-being and effectiveness as well. The survey gives little or no indication that women are more worried about the impact of Corona on their career situation than men are. Instead, the survey shows that a slightly higher percentage of women than of men answered, that they, due to Corona, got more time to work on their project.'

Table 4: Q4. According to numerous studies, this pandemic has disproportionately hindered women's careers and research, based on disparities in the distribution of domestic workloads, disproportionate increases in caring responsibilities, and reduced career opportunities compared to men. How has this trend manifested in doctoral and research activities in your institution? How, through what concrete steps or measures, do you plan to utilise the lessons learned in this area to improve equity and inclusion in doctoral and research activities in your institution in the post-covid times?

Nr.	Activity, action or measure that will remain	Number of mentions
1	No particular steps for equal opportunity	7
2	Extra funding and extensions for PhDs with care responsibilities	5
3	Equality, diversity and inclusion policies under construction/review	3

4	Measures for protecting female PhDs or fathers in parental leave	2
5	Ensure equal attitude for female and male PhDs	2
6	Annual gender report	1
7	Dual career and family support	1

Impacts on doctoral supervision

Online supervision has become the default during the past one and a half years. An important prerequisite for successful online supervision was the upgrade of technological infrastructure and support, especially with respect to video conferencing tools and e-learning platforms. Additionally, the UNIVERSITY OF GRONINGEN provided PhD candidates with laptops, headphones and good office chairs on loan or by substantially contributing to the acquisition of it.

Once in place, both supervisors and doctoral candidates can benefit from online supervision. Distance supervision is not a completely new issue, though, as it was already possible at some universities or in specific cases before the pandemic (e.g. joint supervision with a supervisor from abroad, PhD candidates on extended research stays). Obviously, virtual meetings facilitate collaboration with (international) researchers. Besides there is a lower hurdle to set up unscheduled spontaneous meetings for quick check-ins or urgent enquiries. After all, the PhD surveys at the AARHUS UNIVERSITY AND UNIVERSITY OF GRONINGEN indicate that doctoral candidates are quite satisfied with meeting their supervisors online.

The main challenges concern the **lack of social interaction and engagement with the research environment**. Some subjects are more difficult to deal with online than others. There is also a **risk of not identifying critical cases**. Supervisors report that they did not recognise overlapping topics of theses or underlying conflicts between team or committee members. It is also **challenging to assess the well-being of the doctoral researchers**. Some supervisors were quite surprised that they did not realise how much the professional and social isolation affected the mental health of their PhD candidates.

In order to support supervisors in coping with these challenges, several universities encouraged supervisors to keep close relationships with their researchers, highlighting the need to check in with respect to health and well-being, as well as engaging in dialogue about the research progress. Those universities that have **support services for supervisors** in place (e.g. UNIVERSITY OF BERGEN, UNIVERSITY OF BRISTOL, DURHAM UNIVERSITY, KU LEUVEN, CHARLES UNIVERSITY IN PRAGUE, UNIVERSITY OF TURKU, ÅBO AKADEMI UNIVERSITY), mentioned that they include the challenges of online supervision in regularly offered supervisor trainings (e.g. e-teaching courses, supervisor seminars and meetings). Others mentioned to adapt guidelines for good supervision and to offer short manuals.

The UNIVERSITY OF COLOGNE observes: 'The pandemic situation has proven the value of structured and organisational supervision and education protocols through a conversion to virtual formats. Critical cases (e.g. doctoral students with mental health issues, critical research projects with unclear progress or conflicts between doctoral students and

supervisors) could be identified more effectively compared to individual supervision processes, in particular during the pandemic. Therefore, the University of Cologne will continue to expand structured supervision protocols in the future and apply them across all faculties.'

Table 5: Q5. How is doctoral supervision changing? Is there institutional awareness with respect to the challenges of distance-supervision and possibly organisational support?

Nr.	Activity, action or measure that will remain	Number of mentions
1	Digital organisational support, including courses for supervisors	9
2	No general/specific awareness of the challenges of remote/distance supervision	5
3	Short manuals (or online course) for supervisors	2
4	Already had online activities before	2
5	Awareness exists, extra measures will be taken in the future	2
6	Increase the frequency of online meetings	1
7	Support for senior colleagues	1
8	Critical cases easier to spot	1
9	Mandatory supervision training for first time/starting supervisors	1
10	Guidelines for good supervision	1
11	Negative impact on interaction	1
12	Facilitated collaboration with international researchers	1
13	More unscheduled spontaneous meetings	1
14	Intention to develop a learning journey platform for PhDs and supervisors	1

Impacts on the mobility of early-stage researchers

When analysing the impact of the pandemic on the mobility of doctoral researchers, it is important to distinguish between long-term mobility (i.e., PhD candidates pursuing a doctorate abroad) and short-term mobility (e.g. conferences, field work, short research stays abroad).

As for **long-term mobility**, most universities stated that the number of international doctoral researchers at their institutions has not changed significantly. However, some doctoral candidates had to slightly postpone the starting date of their PhD or, if possible, start their research remotely until safe travelling was possible. In addition, some international candidates

returned to their home countries at the beginning of the pandemic but continued their qualification with online supervision.

Short-term mobility shows a completely different picture. There was a serious decline in short-term mobility of early-stage researchers. Virtual mobility has been an adequate substitute for conferences and short-term project meetings with collaborators. In fact, it also added value to some doctoral programmes, particularly facilitating the invitation of international guests to online meetings. In time-critical cases, such as the fulfilment of Cotutelles before graduation, universities explicitly approved that doctoral researchers replaced physical research stays by virtual mobility. Yet, this is only considered an exception to the norm. **Virtual mobility may replace part of a research stay, but it cannot cover for the researcher's eagerness to go elsewhere and gain experience in a different research environment. It can also not replace physical networking. Especially for early-stage researchers, the personal contact is important in establishing an international network. Once it is set up, virtual mobility may help to keep in touch** – with an additional positive effect on the environment by reducing air traffic pollution.

Therefore, the Coimbra Group universities are expecting that virtual mobility will increase in the future, but it will not replace physical mobility. Research stays abroad are an asset both for the research and for the career perspectives of the early-stage researchers. Particularly in experimental subjects, it is not likely that research stays will decrease. Then again, the risk of virtual seminars and conferences replacing face-to-face ones is higher. Generally, virtual mobility is possibly a good supplement to plan and execute smaller meetings and to keep contact with research environments across borders.

Table 6: Q6. How does the pandemic situation affect the mobility of early-stage researchers? Have the numbers of international doctoral researchers changed significantly at your university? Do you see a risk that virtual mobility will replace research stays as a guest researcher in other countries?

Nr.	Activity, action or measure that will remain	Number of mentions
1	Decline in physical research mobility (long term and short term ones)	15
2	No risk of replacement of physical mobility with virtual ones (physical mobility preferred, especially for experimental fields)	13
3	No significant change in international candidates/PhDs	12
4	Increase in number of virtual mobility	7
5	Too early to assess the impact on international PhDs	5
6	Increased opportunities for participation to conferences online	5
7	Risk for replacing physical with virtual mobility, not only due to pandemic, but also due to air traffic pollution or good possibility for online collaboration in theoretical subjects	3
8	Plan for blended mobility	2

9	Limitations in term of networking because of the online	2
10	Drop in international candidates	1
11	No decline in research mobility abroad	1
12	Reduced attractiveness for a PhD abroad, for the online	1

Key takeaways for the Higher Education Community

Our analysis of the survey responses shows that **most universities will – at least partially – maintain elements of doing a PhD online** (admission, reports, courses, committee supervision, public defences, conferences). The experiences of the pandemic suggest that this may lead to **positive outcomes**:

- more flexibility in the PhD administration,
- inclusion of PhD candidates with special needs (e.g. with caring responsibilities or disabilities),
- increased multi-campus participation,
- a higher collaboration with international researchers,
- an increased possibility for Cotutelles,
- a higher potential for interdisciplinary exposure.

At the same time, our analysis revealed several **alert issues** that universities should systematically reflect upon after the pandemic. **Universities observe severe impacts on the well-being, equal opportunities, and mobility of doctoral researchers.** Online teaching and supervision may lead to:

- a poor interaction for the whole doctoral process,
- difficulties in engagement and commitment,
- isolation and a lack of the necessary doctoral socialisation.

Besides, the universities gained experiences with altered forms of doctoral supervision. The most important **challenges for supervisors** are:

- the detection of overlapping topics of theses,
- empathy for feelings and the emotional well-being of the doctoral researchers,
- the identification of conflicts between team / committee members or supervisor and PhD candidate.

Some **key lessons** learnt are:

- With respect to the particular pressure to deliver a result with high scientific quality in a short amount of time, it is important that in times of disruptions PhD candidates are given prioritised access to offices, labs and supervision (even if only digitally).
- Certain research subjects cannot be dealt with online.
- Protocols for **structured supervision of doctoral candidates** (e.g. annual progress reports, scheduled thesis advisory committees) provide for a stable supervision environment and offer an opportunity to discuss delays and other challenges.

6. Career Services and Employability

Career Services activity in the Covid-19 pandemic

The pandemic forced Career Services (CSs) to adapt very quickly to the restrictions imposed at the outset of the pandemic. From the experiences gained during this initial period, and also from the responses provided by the universities, a number of important issues stand out when trying to understand how the work CSs has changed and also how they will adapt in the future.

In this regard, the next sections provide insights into changes seen across career services in Coimbra Group universities that detail the type and scope of the services that are offered; how services are delivered; how CSs adapted their communication with students and companies: how the work of CSs officers have changed; and how the labour market has changed too. Finally, the new challenges and needs of CSs in the post pandemic scenario are presented.

Method

25 universities answered all or part of the questions in the section on Career Services and Employability of the Second Coimbra Group Questionnaire on Covid-19 Impact and Adaptation. The questionnaire was organised around six main topics. Through answering open questions, universities were able to explain how they adapted to the changes imposed by the pandemic, including, when possible, providing data to quantify the impacts, and also including examples of best practices or concrete examples.

Six sub-groups were established to analyse the responses and so each sub-group worked with one question and the responses of all 25 universities. The analysis of the content of the answers, where an attempt has been made to combine more general responses with the details of specific issues, has been complemented by the knowledge and the experience of the sub-group members. The structure, dimension, and service portfolio of each CSs is highly variable. However, this creates a very diverse panorama that is difficult to summarise, but it provides a wealth of interesting outcomes.

Finally, the six texts contributed by each sub-group have been merged into one, trying to avoid repetition, and pointing out those critical aspects or key points for the future of CSs in a post-pandemic context.

Type and scope of services offered

Career Services (CSs) responded promptly to pandemic, and this represented the occasion for a digitalisation experiment. In many cases the **pandemic was not the primary driver for new initiatives but represented a catalyst which sped up digital transformation**.

Most of the CSs after the initial uncertainty and in some cases even the cancellation of service/event started a rearrangement phase. Most important changes were in format, rather than in type or scope but as time passed, they realized it is more than an online replica of f2f activities.

At students' level, main challenges were:

- Increasing requests for individual support
- Review of support provided to help students during this period - focus more on mental health, good mindset etc.
- Reaching out students who don't ask for help and risk to fall under the radar
- Refresh contents including new topics (e.g. online recruitment)
- Promoting training in digital skills
- Find new ways to engage students who were overwhelmed with online activities.

Generally, CSs addressed new or revised services to the whole student community. Only in a few cases, targeted initiatives were implemented e.g. addressed to the last year students or international researchers and students.

At companies' level challenges were:

- At the beginning many companies refrained from participating in recruiting activities because of uncertainty but it was crucial to maintain the contact with them
- Managing different needs and demands according to the business sector, geographical location, and company dimension.
- Supporting companies which are not proficient in the use of online platforms
- Find innovative recruiting solutions to attract candidates
- Foster and provide support to increase online internships despite the initial caution

New online services required new tools with a view to maintaining the same quality. The first challenge was the right choice of tools and training on how to use them. In certain cases, universities reinforced both internal and external collaboration.

In the face of rising demands in terms of human and technical resources all respondents CSs, except 2, stated they did not have positive changes in budget or staff numbers and even some of them faced a significant drop in their budget because of lack of company sponsors.

Services' delivery and communication with students and companies

With the shift to a virtual environment, **CSs did not only 'copy and paste' online their on-site services, they adapted existing and also developed new ones**, which also meant new challenges in how to deliver services and also the ways to communicate with students and companies.

Regarding the services' delivery, relevant challenges were:

- First to attract students, then to keep them connected (trying to avoid dangers of digital fatigue or multitasking). UNIVERSITY OF PAVIA scheduled shorter and more interactive

online meetings; KU LEUVEN developed the new online platform 'Career Zone' and posted series of videos on application process and LinkedIn, UNIVERSITY OF COIMBRA promoted opportunities for online internships and soft skills training.

- Some online activities, such as workshops, had no interaction used physically. To keep the students, UNIVERSITY OF GENEVA and UNIVERSITY OF PAVIA used questions and chat box, as well as testimonials and sharing of personal experience.
- Students need 'human beings' behind the screen. Alumni gave great contributions: UNIVERSITY OF GENEVA developed a programme of workshops, JAGIELLONIAN UNIVERSITY IN KRAKÓW carried out mentoring classes.
- Online internships increased the need for digital skills and flexibility for career service staff, companies, and students. Where virtual internships weren't possible, UNIVERSITY OF PADOVA developed a Moodle on career guidance to help students to gain internship ECTS to conclude study course. UNIVERSITY OF COIMBRA developed specific academic digital platforms to support remote classes, meetings and the interaction between students, teachers, researchers, and partners. In Covid-19, in the Russian Federation the Ministry of Education and Science created five pilot programs that combined students' professional training helping socially vulnerable citizens.

Success in new setting concerns

- increasing participation, accessing without moving,
- growing accessibility to synchronous and asynchronous tools,
- guaranteeing of many and different services to students.

Regarding communication with students and companies, **CSs needed to maintain contact with users, especially to explain new services online and how to access them**. More than formal communication, it became relevant to faster circulate information and news on career service activities by

- shorter and more frequent direct communication,
- mass mailing,
- social media campaigns (focusing on the most used by students, as Instagram stories in UNIVERSITY OF BOLOGNA case).

JAGIELLONIAN UNIVERSITY IN KRAKÓW evidenced that the biggest challenge about online communication is the high quality of internet connection. The UNIVERSITY OF COIMBRA emphasized the importance of training in the use of digital tools for remote teaching not only for teachers but also for students.

Universities also communicate with companies. At the beginning of the pandemic some employers preferred postponing activities. Many smaller companies suffered gaps in digital to cope with virtual formats. UNIVERSITY OF PADOVA created virtual Q&A group meetings to help companies in new procedures (e.g. virtual internships).

Work as a career service officers

The work of the career service officers also changed during the pandemic, in a context of being forced to work online, but even in the next post pandemic situation, where to the hybrid work environment has more normal in many institutions.

The new situation, characterized as a movement from campus events to online events and tools, forced staff to work with online tools. So, the challenge was the need for training on digital skills in a short time. In this regard, the career services seemed to have initial difficulties moving more or less all of the services online in a very short time. However, the situation changed quickly and required individuals and organizations to adapt.

In addition to the effort of career services staff, universities provided tools and to support online working including computer and platform technical support, laptops and equipment for home office, technical tools and databases and other platforms, specialised training for staff, and even freedom to try things out.

After getting used to the situation and becoming familiar with the different tools available to help plan services online, many great new practices started to emerge. Changes introduced by this new situation are perceived as positive and many should be kept. **The future appears as a hybrid, in which the use of online tools allows universities to reach more students and companies, collaborate with partners beyond their local setting, and can benefit student's learning experience.**

From an organizational point of view, the challenge was to work as a team from home, having regular meetings and losing the informal networking at the office. It must be remarked that teamwork is one of the main features of career services. And also, that the new situation was characterized as a movement from working in university premises to working from home.

In order to keep in touch with colleagues, and even with academic and staff colleagues in other departments, to allow sharing information and inspiration, and to create follow up meetings and moments of team building, some universities introduced informal online meetings, even using tools such as WhatsApp. But **the psychological well-being of the staff has appeared from the beginning as one of the cornerstones of the forced movement to work from home**, as some workers have experienced a sense of loneliness. Here again, some many good new practices have arisen.

Changes also are perceived as positive, and a mix of digital and analogue workflow seems to make work faster and flexible. It seems likely that hybrid working provides benefits that should be kept.

Even though there have been many great new practices, as the pandemic has been a catalyst for changes, there still seem to be uncertainties about how the future will look and what can actually be used in the future. In this regard, some relevant experiences have been e.g. at UNIVERSITY OF BRISTOL a training programme has been created to help staff keep abreast of these new platforms as well as helping staff to focus on well-being e.g., through encouraging 'coffee huddles' brief online social gets together. The UNIVERSITY OF PAVIA organized a video course about smart working: IT tools suggestions and instruction, plus some psychological notes for working well-being. And also, psychological support has been introduced to help the academic and staff community. During the lock-down the UNIVERSITY OF GRONINGEN

organized well-being weeks and some other activities. Now, a new landing page is also close to being published focused on students' well-being. And at the UNIVERSITY OF BERGEN, the pandemic worked as a catalyst for both establishing a website, displaying different transversal skills and establishing a career centre.

Changes in the labour market

It can be stated that the labour market has been affected by the health crisis, despite national, regional, and local specificities, and also differently in each economic sector or type and size of company.

The knowledge about changes and trends in the labour market, and thus which have been the effects of the pandemic on it, is very different in each university. In general, some economic sectors have been the most negatively affected, especially tourism and leisure, real estate, aviation industry or oil industry. Meanwhile others have benefited from the situation, such as health care, IT, BPO, agriculture, logistics, social media, and electronic commerce. From a dimensional point of view, smaller and individual companies have been the most affected. The International Labor Organization (ILO) estimated that the level of employment worldwide decreased by 114 million jobs in 2020 compared to the level registered in 2019. Regarding gender, women have been more affected than men by the decline in employment, in all regions and with respect to all income groups. According to age, young workers were particularly affected by the crisis. But **the post pandemic scenario offers a new picture in which employment is recovering in parallel to the economic growth phase**.

The role of the universities in providing students and graduates with information and updating in the trends in the labour market, especially in times of crisis and change, has been crucial in order to improve their opportunities. There are some good examples, such as the UNIVERSITY OF BRISTOL providing students with regular updates on the UK, and to a lesser extent the global labour market, via dedicated pages on their platform. UNIVERSITY OF PADOVA has an Observatory on the local job market which through an on-line survey detected the impact of the pandemic in the Veneto labour market.

Regarding the skills required by companies, these are mainly related with transversal and adaptation skills, and also very connected to the digital transformation, especially IT skills and digital communication skills, both in job offers and in internship offers, and especially in the latest, when the internships became virtual. But it should be remarked that remote working may become a key part of the work life in future, so students and recent graduates will have to face a new scenario in their career that probably has not been present during their studies. Regarding the skills most valued by employers, there are also relevant initiatives such as the UNIVERSITY OF COLOGNE that has started a quantitative and qualitative survey on skills and knowledge as well as work formats required by the regional employers.

The job and internship offers have suffered the same cycle movement than the economy in general. At the beginning of the pandemic, there was a clear decrease in the number of job offers, or at least there was a freeze in recruitment in the number of internships. E.g. UNIVERSITY OF GENEVA reported a 20% decrease in student jobs in 2020 compared to 2019, and a freeze in job posting for young graduates. As regards internships, they were either

carried out virtually or postponed; only very few were cancelled. For the same years, JAGIELLONIAN UNIVERSITY IN KRAKÓW also reported a decrease in a 50% of job offers for students and graduates and also in the number of internships and volunteering offers. The UNIVERSITY OF TURKU and ÅBO AKADEMI UNIVERSITY reported a drop of about 36% of internships and 45% of job offers. Again, the impact has been diverse depending on the local conditions, and some universities have also reported minor impacts. Some relevant experiences are e.g. UNIVERSITY OF GENEVA, in order to stimulate the job posting by employers, decided since the beginning of the pandemic to make it free of charge, or in case of internships, the UNIVERSITY OF GRONINGEN, in the Faculty of Economic and Business, offered a remote internship at different companies in Europe as an alternative to study abroad, since mobility was severely curtailed.

After the health situation improved, in general job and internship offers seem to have returned to pre pandemic numbers, even in the case of internships there has been a major increase, probably conjunctural due to the temporary lack of exchange opportunities. In any case, it can be pointed out that **there is a more or less pronounced trend that, compared to the pre pandemic period, a large number of companies offer the possibility to carry out the internship in whole or in part remotely, and in some cases even the selection and onboarding process is entirely managed remotely**. Companies foresee a greater use of this new working approach and greater use of digital tools. Therefore, compared to the past, companies require staff to possess new and specific technical skills in the digital field but also staff with transversal skills (e.g. greater flexibility and the ability to collaborate in virtual teams) that allow them to better manage these new tools not only from a technical point of view but also from an organizational, managerial and relational point of view.

Addressing new challenges and needs of CSs in a post pandemic scenario

During the global pandemic CSs acted as key connectors between students, employers and academia. While the rapid transitions needed to respond to the pandemic brought uncertainty and challenges, they also brought opportunities that allowed CSs to develop new models of virtual service delivery that were flexible and agile. Action now needs to be taken to embed these learnings based on our shared experiences. Several key themes emerged including the need for:

1. A centralized careers service at each university, which is endorsed and supported by senior management and appropriately funded and resourced to ensure stability. This includes investment in the recruitment and upskilling of careers services staff and in enabling technologies

While the inclusiveness and accessibility of careers support to all students has been somewhat improved by the move to virtual working, it is important to continue to prioritise in-person student engagement with careers services to allow for a richer student experience. This needs to be supported by senior management and appropriately resourced by institutions. There needs to be stability of funding for Careers Services to allow for the

development of sustainable services that can evolve to meet changing student, academic and employer needs. This systematic empowerment of Careers Services will foster a sense of a shared mission with the university. Universities need to make a clear statement that employability is a whole-institution responsibility and that the work of careers services is valued.

It is also important that those working in careers services get the opportunity to upskill and reskill to keep up to date with best practice in career guidance and with what is happening in a rapidly changing labour market. This will promote quality improvement and the development of career services.

Investment by universities in career management systems to support student engagement with careers services is also a priority. This will allow students to record their career planning activities and their skill development journey, careers services to easily report on student engagement with their services, and will connect employers with students through events, activities, and jobs boards.

There is a need for the CSs to adapt constantly, and this involves:

- staying up to date with changing trends in the labour market;
- being adaptable regarding delivery tools (face-to-face, online or hybrid);
- becoming more accessible, visible & inclusive for students incl. disadvantaged students;
- partnering with alumni, other universities & institutions.
- being linked to local and regional counselling structures

And also, regarding the bridge between the university and companies/organizations/the market that the CSs should play, they can:

- make employers understand what graduates can offer;
- provide ad-hoc training to meet specific employer demands;
- Depending on the context, partner with companies/organizations to foster the regional economy, this has become particularly apparent with the companies' difficulties dealing with the pandemic. This could include model revision, employer branding, hiring activities (in some contexts, CSs however reject a close relationship with companies)
- sensitize companies to adopt a more inclusive approach and to combat discrimination phenomena that could be accentuated due to the post Covid-19 situation.

2. Enhanced careers support for students and recent graduates to deal with the high level of uncertainty in the labour market as a result of the pandemic

One of the key roles of Careers Services now is to help students and recent graduates to deal with uncertainty around their future plans and to support them to be agile and flexible so they are prepared for the right opportunities when they arise. Specific support should be put in place for those who graduated during the pandemic, so they don't get lost.

The pandemic has brought the issue of student digital poverty to the fore so this needs to be addressed by universities to ensure students can fully engage with online careers services. They also need quiet spaces on campus to attend online meetings with the careers service and to do online interviews with potential employers.

Students must be prepared for a dynamic labour market through transferable and professional skills development, particularly they must demonstrate flexibility and adaptability, e.g. be able to learn digital skills or other new challenges.

The CS can support this through personal consultations, workshops, seminars, online guidance, micro credentials and should make use of face-to-face, online, hybrid ways, where applicable, on the following issues:

- help the students develop a long-term strategy for enhancing professional well-being and career development prospects (Jackson, 2014)
- teach methods of job searching and how to develop a strategy for employability rather than match with a certain job or focus too much on the statistics of their employment
- individual career guidance, including helping the students discover their talents and preference & supporting innovative ideas;
- encouraging teaching staff to embed employability in the curriculum, which is perceived as one of the essential issues
- prepare the students for all (new) forms of the recruiting process
- advertise internships & job opportunities;

3. Embedding of careers and employability in the academic curriculum complemented by a range of co- and extracurricular activities

Universities need to look to the future and ensure that the development of skills for employability are embedded in the curriculum and in co- and extracurricular activities. This is not something that can be put on the long finger – change needs to happen now so we are better prepared to deal with and proactively respond to change in the future. Careers Services also need to be involved in cross-university and cross-institution initiatives, e.g. alumni mentoring, employer mentoring programmes.

It is important to look at the student journey from pre-entry to graduate from a careers and employability perspective and have key touch points along the way appropriate to where the student is at in their career planning. This moves from education, advice and awareness raising in the earlier years to labour market insight and preparation to enter the labour market in the later years. In parallel to this runs the focus on skills development for the modern workplace including expert and transversal skills and the ability to reflect on these skills and articulate them to a potential employer.

It was suggested that all new courses must include how employability skills development will be addressed in their course proposals. This is already in place in some universities.

Key areas for consideration arising from the survey include:

- Should engagement with careers and employability be compulsory or optional for students?
- Should it be embedded in every academic course or complementary to the academic course, e.g. co-curricular?
- Should careers and employability modules/activities be for ECTs credit or non-credit?
- Should careers services be there for students to self-serve, or should they be more directed?

It was acknowledged by several universities that embedding careers and employability in the curriculum will require a culture change, which may take time.

4. Increase in work-based learning opportunities with employers to enable students to develop skills that will enhance their employability, e.g. internships, work placements, student projects with employers, student consultancy, innovation and entrepreneurship, etc.

Universities need to promote a culture that gives students time and opportunities to focus on developing their employability skills both within and outside the curriculum, ensuring that they get exposure to modern work practices from industry partnerships and work-based learning. There is a need for an agile curriculum developed by academics in partnership with industry.

There is a clear need for investment in employer engagement roles in careers services to build and strengthen partnerships with employers and to create work-based learning opportunities for students.

5. A focus on new recruitment methods, new ways of working and the skills needed now and in the future informed by knowledge sharing with employers and strong labour market data and intelligence

Universities should strengthen their relationship with employers of their graduates and allow opportunities for collaboration on how skills needs have changed as a result of the pandemic, the impact this had on work practices, and what new jobs have arisen. This also include sharing of information on new online recruitment methods that are now used by employers.

Employers can also help careers services understand how the pandemic has impacted on the labour market across all sectors and what both the short-term and long-term impacts are. There is a need for good, reliable labour market data to inform the work of careers services with students and employers.

Depending on the university, employers can contribute to guest lectures, panel discussions, skills sessions and there may be opportunities for them to be involved in course/module co-design and co-delivery.

Careers services also have a role to play in educating employers on what graduates need in a job and on matching their recruitment cycles to the student academic calendar to maximize

opportunities for engagement. A better sharing of plans from both sides would ensure more effective co-operation.

6. Development of careers and employability strategies at national and European level and better sharing of good practice and employment and learning opportunities across Europe facilitated and funded by national and EU institutions

A recurring theme through the responses was the role of EU institutions in the dissemination and sharing of good practice across careers services around Europe and integration of the various employment portals. Since universities need to prepare their students for a global labour market, this international element of the work of careers services was deemed important. That's why at a European level it was stated that it was crucial to develop international networks of career services to not only share good practices but also employment and learning opportunities.

It was suggested that EU institutions could provide more internship exchange and mobility opportunities both for careers services staff and for students with a focus on improving language skills and enhancing their career vision.

There was also a recommendation that EU institutions provide funding and subsidies to universities specifically to support the development of student employability and enable better access to the labour market. This could be accompanied by national government funding of careers services and specific incentives to employers to hire new graduates.

Several universities highlighted the need for clear **Careers and Employability Strategies** at both national and European level. This would start from junior level all the way through to adult level and would build from basic skills to more expert skills throughout an individual's life. This would include clear training and progression paths and mentoring programmes for careers professionals.

The role of new types of awards at national and European level such as micro credentials and open badges in skills development was highlighted.

The priorities for CSs, post-pandemic, are to continue to support an engaging student experience, to prepare students and graduates to enter a revitalising graduate labour market as the global economy starts to rebound, and to help them build the skills needed for a new world of work and to address the social challenges we face.

In a post pandemic scenario, where new challenges need to be overcame, there is the need for:

- A centralised careers service at each university, which is endorsed and supported by senior management and appropriately funded and resourced to ensure stability. This includes investment in the recruitment and upskilling of careers services staff and in enabling technologies.

- Enhanced careers support for students and recent graduates to deal with the high level of uncertainty in the labour market as a result of the pandemic.
- Embedding of careers and employability in the academic curriculum complemented by a range of co- and extra-curricular activities.
- Increase in work-based learning opportunities with employers to enable students to develop skills that will enhance their employability, e.g. internships, work placements, student projects with employers, student consultancy, innovation and entrepreneurship, etc.
- A focus on new recruitment methods, new ways of working and the skills needed now and in the future informed by knowledge sharing with employers and strong labour market data and intelligence.
- Development of careers and employability strategies at national and European level and better sharing of good practice and employment and learning opportunities across Europe facilitated and funded by national and EU institutions.

7. University Cultural Heritage

During the last 18 months, university cultural heritage institutions have kept their physical spaces closed. Therefore, it is unsurprising that these institutions have invested more in digital communication to engage with the public and the academic community. Although many of the respondents already had a presence on social media or shared their collections online before the lockdowns, digital communication activities increased for almost all university museums and libraries. We witnessed a surge in virtual exhibitions, social media posts, online lectures, video series, and much more. Above all, increasingly more institutions are now aware of the fundamental importance of digitisation and the need for a digital communication strategy, dedicated financial resources, and skilled staff.

The Covid-19 crisis has changed our perception of the digital world forever: we have learned a great deal concerning what we can do with heritage collections and how we can ensure the continuation of teaching, learning, and research even when access to collections might be limited. The crisis provided the chance to explore new ways to make collections more easily and completely accessible to newer, broader international audiences.

To facilitate this transition, it is imperative that academic institutions and international organisations support university museums and libraries in their processes of digital transformation. This involves developing shared standards for technology and practice and ensuring that heritage groups in Europe regularly interact, especially concerning these key potential developments. On the other hand, it would be desirable for the European Union institutions to strongly support projects aimed at relaunching the direct fruition of museums so that the emphasis on the importance of IT tools during the Covid-19 crisis will not confuse the public (especially younger people) about the real meaning of cultural heritage.

There is no doubt that the past few months have seen increased recognition of the role of museums in providing the vital infrastructure that underpins university research: once universities were ready to restart research activities, pressures were put on libraries and collections to re-open as they were recognised as the 'laboratory for the humanities', engaging various faculties, research groups, centres, etc. to ensure the sharing of knowledge and dialogue with society. This gives us an opportunity to encourage future investment in our work and to support projects – whether digital or on-site – aimed at making knowledge-based discourses relevant to societal development.

Means of communication used by university cultural heritage institutions

During the pandemic, the main digital means of communication used by university museums and libraries to engage with their public were websites, newsletters, and social media.

Some cultural heritage institutions have their own official (often dynamic) websites, which they updated with special sections concerning available resources, new digital content, and information about opening times and Covid-19 regulations (face masks, distancing, etc.). Other institutions communicated with their public through the university website; the

UNIVERSITY OF PAVIA Museum System also used a website managed by the municipality of Pavia for spreading news about museum events.

To maintain contact with the academic community, news regarding museums were also published in university newsletters. Institutions with their own newsletters, such as the UNIVERSITY OF COIMBRA museums (25,000 followers), used targeted mailing lists to keep their public informed about the initiatives specifically organised following the Covid-19 emergency: they published issues more frequently and sometimes offered a (partially) multilingual version (i.e., the Museum System of the UNIVERSITY OF SIENA). The UNIVERSITY OF PAVIA Museum System also used a mailing list prepared by a company with whom they collaborate for educational activities in order to reach a wider audience.

Social media (YouTube, Facebook, Instagram, and to a lesser extent Twitter) have been used to keep in touch with the public and exhibit curious finds, surprising anecdotes, and little-known stories from museum collections. University cultural heritage institutions with their own accounts have launched new sections. They have used these to present curious exhibits from their collections and share unpublished stories and photographs, experimenting with new languages and original forms of dialogue with their public. The section #missionigeografiche proposed by the Museum of Geography of the UNIVERSITY OF PADOVA has been particularly successful: they invite followers to share the photographs of their favourite places on Instagram that can only be visited 'with the mind' (virtually) during the lockdowns (#lamiamenteviaggia).

Thanks to the functionality of popular social networks, SAINT PETERSBURG STATE UNIVERSITY museums were able to publish a variety of content that would meet the needs of their target audience. One of their most effective projects was the online lecture hall of the V.V. Nabokov on the popular Russian social network VKontakte: in 2020, 17 online lectures were held on the museum's page, which were viewed about 200,000 times. This activity helped the museum to maintain contact with its regular audience and attract new visitors.

During the pandemic, several university cultural heritage institutions have also heavily invested in implementing their YouTube channels with both formal and less formal outputs. From March 2020 onwards, the Museum Centre of the UNIVERSITY OF PADOVA has released a series of videos called 'CAMcaffè', focused on objects or stories connected with their museums. Each video examines a different collection, and the series is an invitation to discover the multiple 'tastes' of the university's heritage: archeology, physics, geology, ethnography, art, medicine, technical and natural sciences and much more.

The Covid-19 crisis has encouraged our institutions to think more widely about how we use different types of digital media. It has pushed us to experiment with new means of communication and languages that were unfamiliar to us, such as virtual and augmented reality.

The UNIVERSITY OF BARCELONA has upgraded its multilingual virtual museum to improve user experience and to offer a new interface to improve online knowledge of its collections (see more at http://www.ub.edu/museuvirtual/visites_en.php). The Museum of Archaeological Science and Art of the UNIVERSITY OF PADOVA, the UNIVERSITY OF SIENA Museum System and the Rıdvan Çelikel Archaeology Museum (ISTANBUL UNIVERSITY) have also offered the possibility of virtual tours of their collections. Likewise, a pilot project has been prepared for

the Bayezid Turkish Bath Culture Museum to be visited digitally with augmented virtual reality: the scope of the project is the digitisation of Turkish bath culture and the tangible and intangible cultural elements of geography by using augmented virtual reality applications, guaranteeing equal accessibility to visitors who cannot see, hear, or speak. The UNIVERSITY OF TURKU museums and the Museum Centre of the UNIVERSITY OF PADOVA have implemented another novel solution: virtual tours with real guides in live broadcast.

To partially satisfy the need for visitors to interact with museum objects, **virtual exhibitions have increased exponentially**, both those conceived exclusively for remote use as well as hybrid ones, such as the UNIVERSITY OF BOLOGNA Museum System's exhibition 'Icons of science' (Bologna, Palazzo Poggi, July 25 – September 30, 2020; and online at https://www.iconediscienza.it/). The UNIVERSITY OF EDINBURGH Museums have pivoted their exhibition activity online and expect 90% of their exhibition activity will be digital in the future.

Digital exhibition platforms also potentially allow more people to create exhibitions. This provides space for collaboration (often at international level) and storytelling, which has become an increasingly important way for people to engage with collections in recent years. Nonetheless, at present only a few institutions have used their own platforms for virtual exhibitions: one example is the Museum Centre of the UNIVERSITY OF PADOVA, with its Virtual Tour portal (http://itinerarivirtuali.musei.unipd.it). The UNIVERSITY OF PAVIA digitalised collections are hosted in the University digital library (https://www.bibliotecadigitale.unipv.eu/), which offer the possibility of creating virtual itineraries. SAINT PETERSBURG STATE UNIVERSITY museums have resorted to using popular online platforms (izi.Travel and Artefact) to organize virtual exhibitions and tours. The museums have prepared 80 online exhibitions on various topics with a total audience of more than 14,000 people. The most popular among them were the online exhibitions presented by the Museum of D.I. Mendeleev: almost 5 thousand people visited the museum page on the izi.Travel platform in 2020.

Also noteworthy are the **development of special apps for the discovery of university cultural heritage through campus and city walks and videomapping experiences**. On Heritage Day 2021 (April 24), KU LEUVEN collections, which are scattered through various departments throughout the university and were inaccessible to the public at the time, were presented through projections on outer walls or screens, offering all citizens the opportunity to discover the richness of the university heritage.

Educational Activities

The pandemic has significantly affected the education field: during the lockdowns, many activities were suspended, schools closed, and classes moved into virtual teaching spaces. Despite the numerous difficulties, university cultural heritage institutions continued to actively participate in educational activities aimed at all age groups, proving the reactivity and creativity that characterise the cultural sector and its ability to adapt to crises.

At the request of teachers and parents, from the outset of the Covid-19 crisis, a few university museums and libraries began to release series of leaflets regarding recreational-educational activities. These guided children to discover the university's heritage week after week; quizzes, games, and laboratory proposals were combined with short introductions to the collections and the museum's history. See the series 'gioCAMuseo', published by the

UNIVERSITY OF PADOVA Museum Center (free download at https://www.musei.unipd.it/it/scopriraccolte/giocam).

The implementation of online workshops and digital guided tours for school groups was more complex for technical reasons and sometimes due to the lack of trained staff.

THE UNIVERSITY OF EDINBURGH museums were able to transition many of the face-to-face community-related projects based around their collection into online spaces. These projects included working with youth communities in the Edinburgh areas to students suffering from poor mental health. Since Spring 2021, several other institutions have been experimenting with fully digital or hybrid solutions, according to the evolution of the situation and the needs of the diverse class groups. As these are novel experiences in continuous evolution, it is important to promote the university networks as a resource for the exchange of experiences and knowledge (see further).

Online lectures have been widely used to deepen certain aspects related to university heritage and to promote knowledge in a wider public. Due to the impossibility of welcoming the public onto its premises, the UNIVERSITY OF PADOVA Museum Centre transferred its traditional series of conferences on the university's collections (#wellCAM) to the Zoom platform, a strategy that received positive feedback from their followers. More than 222,000 people became acquainted with SAINT PETERSBURG STATE UNIVERSITY museums' online events, many times higher than the attendance of prior face-to-face activities. The development of this resource made it possible to increase the recognition of museums and increase the circle of a loyal audience. This, in turn, contributed to the rapid restoration of the work of museums and an increase in their attendance at the end of the lockdown.

THE UNIVERSITY OF EDINBURGH museums have been working on the concept of the virtual reading room over the last 18 months and expect to roll this out starting next semester. Their experience shows that not only do you have to build a new environment, but you must also help academics feel comfortable in it. **There is also a need to raise these new services to a visible level among everything else competing for academic attention.** These are aspects on which we are all called to reflect upon.

Virtual Reading Rooms and Virtual Teaching Spaces will both likely remain as core services beyond the pandemic. The use of these kinds of spaces will not only foster better international collaboration but, once academics are comfortable with the technology, also open our collections to new researchers as it engages students with unique objects in lectures and seminars involving large numbers of people.

UPPSALA UNIVERSITY museums have already recognised the potential of using online reading rooms to enable easier access to heritage collections across the globe. They are engaged in EOSC and strive to make databases openly available. During the lockdowns, the UNIVERSITY OF PADOVA Museum keepers and their research fellows carried on the cataloguing of university heritage on the national SigecWeb platform (the general information system for cataloguing provided by the Ministry of Culture). They have increased the number of files that can be freely accessed through the database and also created a series of new digital collections on the Phaidra platform (the digital repository of the UNIVERSITY OF PADOVA), all freely accessible (https://phaidra.cab.unipd.it). As public outreach was limited during the Covid-19 restrictions, much work has been done by KU LEUVEN's museums in registering

collections on electronic databases. **For these initiatives to be effective, we all need to think carefully about standards.**

The experience of the pandemic will allow us to think further about the relationship between the physical and digital and help us reflect on how we deliver our work and services. As we continue to develop the opportunities presented through digital contexts, we must now commit ourselves to rethinking the physical delivery of cultural heritage as well, as virtual tours can never replace in-person visits and direct contact with the museum collections. Many of our museums are looking forward to re-opening their spaces to full capacity later in the year, but **the crisis has created a new way of handling daily life in museums, such as the necessity of organising small tours and/or a wide offering of specific educational activities. These organised strategies should be continued in the future, even as the pandemic emergency winds down.**

Recommendations

The Covid-19 crisis has allowed us to reset and rethink many of our cultural activities. The lockdowns had a significant impact on the revenues of our museums, which in many cases lost more than 90% of their visitors. **Such an immediate loss of revenue, largely used to finance the preservation and conservation of our cultural heritage, may lead to less investment in the upkeep of buildings and their technical infrastructure: several institutions are already struggling to carry out their agenda regarding the safeguarding of their rich patrimony.**

In addition to seeking new ways of funding, **we must commit ourselves to rebuilding our relationships with our visitors**, regaining the momentum lost in 2020-2021. However, bottom-up initiatives are not sufficient: the mid/long-term impact will be very challenging as long as the actual presence at our heritage venues is limited. In order to reverse the trend, the **European Union institutions should support projects aimed at relaunching the direct fruition of museums. It would also be necessary to consider initiatives aimed at favouring the interaction between universities and innovative institutions in the cultural sector (cultural and creative enterprises).**

While we are returning to the physical delivery of cultural heritage, the opportunities presented by the digital world need to be carried forward and developed further. We are all engaged in a process of learning how new technologies could support our services. We already recognise the potential of using online reading rooms to enable easier access to heritage collections across the globe, as researchers will be able to consult materials from libraries in different countries at the same time. For this initiative to reach its full potential, **we need to develop shared standards for technology and practice. This is another area that the European Commission could support going forward.** The world of cultural heritage is so rich, and there is always a **risk that different groups will try to develop their own solutions to similar problems**, thus leading to a fragmented environment. The **European Commission has a role to play in trying to ensure that heritage groups in Europe are communicating regularly, especially around some of these key potential developments, so that they could develop good practices for risk mitigation.**

We all recognise there is a likelihood of facing another pandemic in the future. Over the 18 last months we have learned a great deal about what we can do with heritage collections. We all see the inherent possibilities of the museum institution to convey experience and learning, democratising knowledge and enabling a knowledge-based societal discourse where citizens participate and are empowered. **It is important to support projects aimed at promoting new ways of thinking and interacting with cultural heritage, such as those focused on how the impact of cultural heritage research can enrich sustainable development**, promoted by the UNIVERSITY OF PADOVA Museum Centre (http://itinerarivirtuali.musei.unipd.it/itinerario/sostenibilita-musei-unipd) and UPPSALA UNIVERSITY museums (https://www.uu.se/en/about-uu/sustainable-development/). Culture and heritage do not only concern the preservation of the past or the reproduction of consolidated social behaviours; they represent an increasingly important resource for establishing sustainable societies that require trust, hope and dialogue. University cultural heritage institutions are important for societies as they are crossroads for interdisciplinary research, innovation, and dialogue involving the public/business sector: a place where bold and daring projects can be achieved.

8. Equality, Diversity, Inclusion

Note on Method

The Equality and Diversity (ED) section of the second Coimbra Group questionnaire on Covid-19 impact and adaptation included the following four questions:

1. What lessons have your institution learnt from the pandemic with regard to challenges of work-life balance, psychological health and academic community's well-being?

2. Into what concrete steps and plans do you envision to transform those lessons in order to work towards creating/supporting your university as a 'caring institution' in post-Covid-19 times?

3. In what ways has the pandemic affected communication within your institution and how do you plan to incorporate those lessons in your future communication strategies?

4. How has your institution fostered remote access and digital inclusion among students and staff during the pandemic and what concrete steps or measures enacted during the pandemic do you plan to keep into post-Covid-19 times?

28 universities (two thirds of Coimbra Group members) answered all or part of the questions in the ED section. The answers provided by individual universities to these questions varied greatly in both length and detail. We performed a combination of content and discourse analysis of the responses to all four questions to generate a comprehensive view of the responding universities' positions concerning questions of equality, diversity, and inclusion. Limited by spatial requirements, and to avoid repetitions, the ED sub-report provides a synthesis of the main positions and arguments the universities shared in this section, supported by relevant concrete examples. It carefully reflects the full spectrum of shared positions and experiences, while highlighting the prevalent responses.

It is important to note that the ED sub-report represents only the experiences and responses (also emotional) of the responding institutions and reflects the peculiarities of their individual ED structures and approaches. It acknowledges that the Coimbra Group universities that did not reply to this section of the second Covid-19 Report may have a different story to tell.

Lessons learnt during the pandemic

The responses concerning what the universities have learnt during the pandemic were dominated by experiencing an **overwhelming sense of human, social and environmental fragility**, but also the realisation of the **interdependence** between these domains. As the UNIVERSITY OF PADOVA effectively summarised on this crucial point, the responding universities 'learnt that collective well-being depends on actions aimed at taking care of the environments in which we live.' Accordingly, most universities perceived as a major lesson learnt during the pandemic the importance of creating, sustaining, and systematically nurturing their institutions as **'inclusive universities', strategically caring for people and enabling them**. Of course, universities have always cared for their communities, in achieving

their goals in education and research. But this 'traditional care' has been defined too narrowly. The pandemic has made it clear that Coimbra Group universities have embraced and started to advance **a new type of caring approach**, which zooms in on diverse academic populations and scientific disciplinary areas.

The universities have also shared an understanding that women academics were more affected than their male colleagues by the conditions imposed by the pandemic crisis. In their answers, the responding universities have confirmed what has been known and scientifically proven for a long time now: the **pandemic** has impacted differently on different groups and communities, and it has **disproportionately affected women** in academia by placing the burden of care on them. Consequently, during the pandemic **women scholars have published and produced less and have struggled to find a balance between family and work commitments**; at the same time, women in academia dedicated energies and attention, beyond didactic work, to take care not only of children and family members, but also of students and their difficulties. **The pandemic has made visible what was previously less visible.** This important realisation should be at the heart of reconsidering the ways in which universities think and operate. As a first step, however, we suggest we should **disassociate the notions of 'care' from the widespread idea that it belongs to the inclinations and duties of 'women'**. To break the cycle or stereotypical understanding of gender (in)equality in academia, **'care'** must become a **gender-neutral concept**, embraced by all and benefiting all.

The respondents all pointed out that an important lesson learnt during the pandemic was that **the future of higher education needs all kinds of knowledge and skills**, especially those of **young (or early-career) researchers, often in precarious positions** which require responsibility and dedication, but who are not supported by solid career prospects. Additionally, the respondents also understood that the university institution thrives on the commitment of the **technical and administrative staff, a large proportion of whom are women**, who in the pandemic have been experimenting with complex ways of working that have a great impact on their family and professional life. Finally, the responding universities witnessed the **difficulties of students**, who have experienced unequal access to the tools and infrastructures of distance learning; of off-campus students who risk, even with the recovery, to remain isolated from the social opportunities that are in the centre of the university experience; of international students entangled in a bureaucracy that has not always been able to recognise their efforts to participate in a university life connected on a digital level, but unable to support relationships and forms of community in the new context. **(Post)doctoral and early-career researchers and international colleagues** have also been **repeatedly identified as especially vulnerable** groups in relation to work-life balance and psychological health. Importantly, the responses made it clear that the **most serious problems** in this regard **are age dependent**.

Indeed, a crucial appeal, raised frequently in most responses to the survey, was the **emphasis on mental health and well-being** across academic bodies. The internal examinations conducted by many universities during the pandemic revealed that **despite** the many positive dimensions of the online teaching and working process, such as **digital inclusion and mobility, home-office flexibility, or time and financial savings**, the majority of people in academia, both teachers and students, have actually agreed that from their point of view, **e-learning requires much more effort**. Online teaching **increased the workload** (once again impacting on research, more so for the higher number of women on teaching-

only contracts in some areas), elevated the **risk of burnout and screen fatigue**. As a result, many teachers and students have experienced personal crises, articulated in terms of feeling a **maximum level of stress, isolation, and distress** by the forced, and very sudden, transition from the traditional in-person education into an online process. Consequently, the need of **psychological counselling** for both students and teachers (studying and working in diverse circumstances and at diverse positions) **has risen sharply** in many participating universities during the pandemic.

On the other hand, in a few responding universities, such as AARHUS UNIVERSITY, for example, many staff members have expressed how much they have appreciated the increased flexibility of working from home and how it has positively affected their work-life balance. They reported having more time for family, better work-life balance, and greater productivity due to less interruptions and time spent on transportation. The UNIVERSITY OF GRONINGEN, to provide another example, shared their experience that online platforms 'are positive developments that can further enhance inclusion in the academic community'. Such **positive experiences**, however, were **exceptional** among the responding universities.

Concrete steps to transform the lessons learnt into productive practice

While less than a third of the responding universities noted that it is too early to have any concrete steps planned already for the post-Covid-19 situation, most of them have already adopted specific steps and concrete plans to transform the lessons learnt during the pandemic into productive practices. Most institutions have decided to gradually **incorporate activities and mechanisms tackling the challenges of work-life balance, psychological health, and academic community's well-being**, which the pandemic has aggravated, **into their Equality and Diversity Plans**. The UNIVERSITY OF BRISTOL, for example, created a special Task and Finish Group in 2020 to specifically address the work-life balance dimensions, by **providing guidance on the impact of Covid-19 on academic careers as an integral part of the university's promotions procedures**. In fact, it seems that quite a few universities, as a response to the experiences during the Covid-19 pandemic, have started to put **a great deal of thought and effort into** creating **new welfare services**, improve the availability of structured supports inside of their organizations and create guidelines to foster a better planning (from working meetings to career development) with the aim **of achieving a better work-life balance.**

The UNIVERSITY OF COLOGNE, for example, aptly pointed out that it is not enough to just expose and record the disproportionate burden of work-life balance the pandemic has placed on women, but it is **important to urge and support fathers** to take on and be committed to their **care responsibilities**. Indeed, **family policy** as a whole has been identified to be an **essential component of the institution's gender equality policy**. In this context, there will be a roundtable discussion at the annual GenderForum 2021, building on scientific findings on the impact of the pandemic on family policy at universities. Further needs will be jointly identified. Specifically, a new service agreement on **'mobile work'** has already been adopted to complement the service agreement on **'home office'.** Likewise, the 'Kopf frei' programme was implemented in the short term, which relieves postdocs and junior professors in order to

make up for time lost in the area of research due to supervisory responsibilities during the pandemic. The programme will continue for some time even after the pandemic.

As another example, the UNIVERSITY OF SIENA mentioned three concrete lines of transformation leading into the post-Covid times. First, **involving students** (and particularly international students) in some general activities of **'community life'** to keep them attached to the community, even during the most critical phases of 'lockdown'. Virtual study events and **'social network stories'** were the main instruments in this perspective during the pandemic and there is a concerted effort to keep them in the post-pandemic times as well. Second, transforming 'student services' in a very significant way. From the simple and radical decisions taken during the most critical days (for instance, providing a 24-hour phone assistance to non-Italian students from the University's International Relations office) to the experimental introduction of some structural changes. And third, the opening of a **permanent forum on teaching and learning practices** in each single department, productively utilising the lessons learned during the pandemic for a **critical exchange about pedagogical practice and visions.**

Awareness of the different impacts of the pandemic on different categories has made the universities more engaged in supporting an **intersectional approach** not only **in research and teaching**, but also **in communication and development**, and **implementation of services, infrastructures, and good practices**. Indeed, the responses made it clear that it is crucial to ensure that the academic communities are better informed about the existence of the newly developing mechanisms, their function and availability. The need to improve information and communication channels in their universities was viewed by many as a necessary prerequisite for successful and meaningful transformation of plans into practice. Key lessons learnt include the need to be timely – say something when you can and be as open and transparent as possible. Indeed, **speed and transparency in communication** were repeatedly mentioned as one of the most important priorities learnt during the pandemic. Also, the pandemic has shown how important it is to give voice to the community to feedback ideas and concerns. For example, some universities hosted a variety of bi-monthly/monthly forums for staff and students or used live streams, which enabled senior leaders to provide key updates, but also to take questions and comments from the staff and students. These mechanisms have proved invaluable, and in many institutions, they will be continued in some shape or form into the future.

Most universities have decided to extend and expand mental health facilities and services, including collaborative projects with student organizations, such as the [ADEPSY](#) project at the UNIVERSITY OF GENEVA. The UNIVERSITY OF BOLOGNA, for example, has expanded its Psychological Help Desk, which started to provide remote assistance not only to students, who were already being assisted before the emergency, but also to those who felt in need of such assistance. Similarly, the UNIVERSITY OF POITIERS has extended services to academic workers under the heading of 'Health and Quality of Life at Work'. But even relatively simple steps and minor improvements can contribute to well-being and comfort of all workers in academia during long online teaching hours and increased demand for online conferencing and international networking. For example, many respondents in an internal Covid-19 survey in ÅBO AKADEMI UNIVERSITY wished for better **ergonomic solutions**, time for exercise during work hours and more support from the closest leader. Similarly, recognising the need for **physical solutions to the mental well-being**, the UNIVERSITY OF PAVIA launched an online initiative with exercises for the physical well-being of students and employees who have to sit

for long periods in front of their computer screens. This initiative will probably be extended to employees with disabilities as well. The project intends to go as far as to offer small group or individual training to interested people. Recently, a working group has been set up to assess the **working conditions of employees with disabilities**. The aim is to improve the inclusion of staff with disabilities in both work and relational activities in the workplace.

Significantly, the pandemic has forced the **digitisation** of communication channels at all levels in a previously unimagined way and has further strengthened the **importance of existing digitisation projects**. This included direct communicative interaction, e.g. via the establishment of video conferences, collaborative tools and chat programmes, as well as the digitisation of working processes (e.g. the introduction of a digital signature). At the same time, the importance of existing structures (e.g. e-learning platforms, social media channels) was further strengthened. On the one hand, this development is certainly very welcome from the perspective of reconciling family or health and studies/work in the sense of **greater flexibility and mobility**. Accordingly, many universities have already adopted a variety of agreements on mobile work, which will also significantly increase flexibility in the future. On the other hand, **digitisation of communication** also means facing **new (equality) challenges**. This includes the particularly necessary **attention to accessibility**, for example **for people with visual and hearing impairments.**

For most universities, **digital accessibility, digital work conditions and remote work regulations are key ways to address the impact of the Covid-19 pandemic** on academic careers **and to promote attention to work-life balance**. They mentioned the need to improve IT resources and services as important concrete answers to the pandemic. Clearly, due to the pandemic restrictions and radical shift to the online environment, all Coimbra Group institutions made significant investments into their IT equipment and digital strategies and noted that in the post-Covid-19 era, they intend to keep a mixed model of remote working and hybrid teaching. Some institutions adopted this strategy mainly for reasons of financial savings and effectivity, while others because they believe that in the post-pandemic future, **a return to 'traditional' academic encounters is no longer possible**; both staff and students will demand more flexibility.

Flexibility and utilisation of digital tools will in turn open more possibilities for **creative education**, as well as **inclusionary practices**, not only for people with disabilities but **in deeply intersectional ways.** As an example, the UNIVERSITY OF COLOGNE created a website for university lecturers, advisors, hosts, and admins on inclusive digital learning, which provides information on accessible design, inclusive didactics of digital learning, and subtitling. Further, a dedicated website for students on inclusive digital learning was published with guidance on captioning, screen readers, text-to-speech output from Microsoft Edge, and how to use Zoom. In addition, a guide to counselling services for students with disabilities has been placed on the UNIVERSITY OF COLOGNE'S central homepage. These websites will, of course, stay a permanent offer and will be continuously developed. Such measures are incorporated into the overarching concept of digital education at the UNIVERSITY OF COLOGNE and closely linked to the agenda of work-life balance and care.

A vision for the future: towards a caring university

Despite the advances, advantages and indisputable benefits of digital education, the **overwhelming focus** of the collected responses in this section of the 2021 Coimbra Group questionnaire about the impact of the Covid-19 pandemic on universities was directed **towards a politics of taking care of** and **improving academic communities**. Altogether the dozens of pages of responses were a testament to a new vision. It is clear that today **we need to develop visions capable of the future**, and to **pursue change with a clear direction**. As mentioned in the beginning of this sub-report, for many universities, the direction is to build a university that takes care of the people who study, teach and work there - in relation to the territory in which it operates: institutions, social and cultural realities, the economic world, the environment - while respecting the pluralism that characterises a complex reality like that of higher education and research, but also in the awareness of the power relations that define it.

Let us think of **care,** alongside scientific/technological innovation, and the pursuit of excellence, **as a concrete proposal for transformation**: we propose to turn **care - as a concept and process, as a practice and goal** – into **one of the cornerstones of university life**. As argued by the UNIVERSITY OF PADOVA, putting care at the centre of university life means putting relationships at the centre, and recognising interdependencies: between different people, needs and conditions, but also between disciplinary sectors, structures, and decision-making responsibilities. **Putting care at the centre of university life means facing the challenge of democracy: promoting equality and freedom** (of research, speech, expression), **reducing asymmetries**, and **allowing its members to participate in the identification and definition of problems, and in the making of decisions that affect them**. Putting care at the centre requires **awareness** and a **change of attitude**: being attentive in order to be able to recognise problems and needs (care about); be responsible in deciding that a specific action is necessary (care for); be competent to give care; and be sensitive to the care we receive. But it also requires **resources**, knowledge, and the development of specific skills; finally, it takes **time** - to make care a recognised, rewarding and shared practice (care with).

All of this also implies the **creation of spaces and places** where the different needs of the community can be expressed and interpreted; **mechanisms for** taking **different perspectives** into account; and institutions interested in taking care of their modus operandi, rethinking it when necessary. Finally, **putting care at the centre requires a full enhancement of knowledge** - in particular of knowledge that is renewed by welcoming the gender variable intersectionally - which will be able to make the practice of care a central element in innovation processes. It becomes clear that this **'care'** must not remain confined to restricted, marginal, often invisible, and private areas, nor be delegated to external services and processes. It is necessary to **transform it into a shared and transversal objective**, and at the same time **a style of action**, which can address daily and individual work (micro) as well as institutional action (macro). Time, therefore, to 'take care' of the knowledge, relationships, generations that inhabit the academic community with different tasks and responsibilities, in its relationship with the surrounding territory and the planet, starting from a shared commitment to equality, non-discrimination, competence, respect, listening skills and social justice in our community.

To sum up

- The pandemic has deeply affected European universities, **in particular women** in academic careers and in administration, **and student communities**.

- Academic institutions have recognized **the urgent need to address and work for the health and well-being of all the people** who study, teach and work in their community.

- Coimbra Group universities have focused on the following main areas, where policies and actions are needed:
    - **Physical and mental health**, including attention to **disabilities** and **neurodiversity**;
    - **Intersectional approach** as the appropriate method of addressing people's difficulties and discrimination;
    - **Speed** and **transparency** as **key communication strategies** to tackle the impact of the pandemic and its consequences for the future;

- **Digital accessibility, digital work conditions** and **remote work regulations** as opportunities enabling **work-life balance**, **creative education,** and **inclusionary practices.**

- **Coimbra Group** universities promote **a new type of caring approach**: one that is **inclusive and equally focused** on diverse academic populations and scientific-disciplinary areas.

- **'Care'** – as a **concept** and **process,** as a **practice** and **goal** – should become one of the **cornerstones of university life:** a **gender-neutral concept** embracing and benefiting all.

Final Remarks

In June 2021, more than one year into the Covid-19 pandemic, the Coimbra Group invited its member universities to share their experiences of how they have been adapting to the changes brought by the global health crisis. A similar exercise was performed one year earlier, in May 2020, which resulted in a publication on the Coimbra Group universities' immediate responses in the areas of international mobility, teaching and learning, research and service to society. While the focus of the May 2020 report was on the areas immediately impacted by the first waves of lockdowns, the present publication aims to provide a snapshot of how universities have been coping with new challenges on a wider range of dimensions including:

- Teaching and Learning;
- Internationalisation Strategy;
- Mobility;
- Development Cooperation;
- Research;
- Doctoral Studies;
- Career Services and Employability;
- University Cultural Heritage;
- Equality, Diversity, Inclusion.

This report consists of eight separate papers on the above-mentioned themes drafted by the corresponding Coimbra Group Working Groups. It is quite challenging to summarise the findings, partly because they relate to different dimensions, partly because it would not do justice to the depth of the insights. This summary will therefore aim to highlight the **horizontal issues emerging across these eight dimensions.**

Digitalisation, inclusion, well-being and **professional development** are, unsurprisingly perhaps, the main broad areas coming to the fore across the domains explored. Strongly intertwined, these issues manifest in different forms depending on the context and have both positive and negative sides to them.

The digitalisation of learning and working are leading to remarkable improvements in the way we interact, teach, learn and work. It has also led to some unexpected by-products, as is the case, for instance, of university libraries and museums, which reported an exponential increase of virtual exhibitions, as well as the development of special applications for the discovery of university cultural heritage through campus and city walks, and video mapping experiences. Staff dealing with university cultural heritage also mentioned that online lectures have been instrumental in raising awareness about university cultural heritage in the wider public. In their opinion, **virtual reading rooms and virtual teaching spaces are likely to remain as core services beyond the pandemic.**

Virtual teaching and learning have triggered pedagogical innovation, fostered a collective reflection on blended teaching and learning solutions, and of course on assessment methods. Considering the likelihood that virtual spaces will continue to occupy an important place, and the fact that there is still an appetite for physical mobility, **it would be interesting to investigate, in the medium-term, whether and in what way universities may consider revising their internationalisation strategies and allocation of such funds.**

Advances in digitisation processes and the increasing use of virtual spaces present various pitfalls, **with important repercussions related to inclusion**, **well-being** and **professional development**.

As regards inclusion, the pandemic has impacted differently on different groups, contexts and academic disciplines. In academia, there seems to have been a gender dimension as we noted reports of female academics in particular struggling to find a balance between family and work commitments. As a consequence, it appears that **women scholars have published and produced less during the pandemic**. While several universities noticed a general increase in research grant applications, they concurrently observed a reduction in female participation. This is a concerning trend that may lead to long term impacts for women. However, when asked whether any specific measures had been taken to address gender disparities at the doctoral level, almost one third of the respondent universities stated that there have not. **It may be appropriate to investigate and monitor whether female researchers have systematically and disproportionately been hindered in their career and research activities.**

For **early-career researchers**, another group to have been greatly impacted, the consequences of the pandemic restrictions meant **losing opportunities to disseminate their research and build support networks**. Some Coimbra Group universities signalled that there appears to have been a decrease of advertisements for postdoctoral research posts abroad, thus reducing career opportunities for this target group.

Shifting the focus from Europe on to the Global South, while online learning and virtual exchange have the potential of fostering the inclusion of those groups who would not be able to afford the costs related to travelling overseas, **it is important to consider how easy/difficult access to technology and/or connectivity may be for higher education institutions and students from the Global South**. In view of the growing trend towards virtual learning, investments in this respect would be desirable.

When it comes to well-being, all groups within the academic community have been impacted, in one way or another. Just to mention a few examples, staff in charge of mobility management at international offices had to grapple with extraordinary workloads during the emergency phase, as the decrease of student mobility did not correspond to a workload decrease – rather the opposite. With reference to the doctoral level, early-career researchers have suffered from isolation due to reduced social interaction and engagement with the research environment. This is the case especially for those international doctoral candidates joining the host institution during the pandemic. **Researchers are still adjusting to the costs of delays and interruptions of experiments in projects, and it is likely the impact of this will have to be monitored and mitigated into the long term.**

Many universities have noted the prevalence of pandemic burnout among staff which calls for additional support at all levels. It is widely acknowledged that **online teaching has increased the workload and the risk of burnout and screen fatigue, while the need of psychological counselling for both students and teachers seems to have risen sharply.** However, it is reassuring to note that higher education institutions are already taking measures towards stress relief, even as far as assessment is concerned: in many cases, traditional closed-book exams and written tests have been replaced with assessment methods reducing stress and anxiety. It is important to keep in mind that the increase of

successful, virtual exchanges and blended learning initiatives will require committed academics who are willing to take on the additional workload of designing and developing new formats with their counterparts at partner universities.

In the post-pandemic future, a return to 'traditional' academic encounters may no longer be possible as both staff and students are likely to demand more flexibility. Despite the many positive dimensions of the online teaching and working, such as digital inclusion and mobility, home-office flexibility, or time and financial savings, there seems to be widespread agreement on the fact that **virtual learning requires much effort**, on behalf of both staff and students. While a lot of work has been done to build on existing virtual initiatives and/or set up new systems and infrastructure, it is difficult to catch up with the speed with which change is happening.

The experiences and issues outlined in this report demonstrate that addressing equality, reducing asymmetries, and fostering democracy by allowing all groups to participate in the identification and definition of problems - and therefore in the decision-making process - require time, knowledge and resources. It is for this reason that **continuous professional development and training are paramount in developing successful and efficient virtual spaces.**

Within a context of novel changes, uncertainty and continuous evolution, **university networks such as the Coimbra Group represent a forum for the exchange of experiences and knowledge, as well as the voice of European higher education institutions in policy dialogue**, with this report being a tangible proof. It is important that such space for discussion continues to be provided in a systematic way in order to support the development of innovative practices in teaching, learning, research, innovation and service to society.

Annex 1: Questionnaire

Second Coimbra Group Questionnaire on Covid-19 Impact and Adaptation

Name and Surname of Person who is responding on behalf of the University:

Position:

Email:

University:

Equality, Diversity, Inclusion

1. What lessons has your institution learnt from the pandemic with regards to challenges of work-life balance, psychological health and academic community's well-being?

2. Into what concrete steps and plans do you envision to transform those lessons in order to work towards creating/supporting your university as a 'caring institution' in post-Covid-19 times?

3. In what ways has the pandemic affected communication within your institution? What lessons learnt during the pandemic do you plan to incorporate in your future communication strategies and efforts to foster caring, inclusive communication within your academic community?

4. How has your institution fostered remote access and digital inclusion among students and staff during the pandemic and what concrete steps or measures enacted during the pandemic do you plan to keep into post-Covid-19 times?

Internationalisation Strategy

1. Given the repercussions of the pandemic on university activities, is your institution planning on/currently developing strategies aimed at re-thinking internationalisation in the short- and medium-term? If so, could you please describe in what way? Are there any changes in relation to the direction of funds?

2. How is your institution systematically approaching the transnational dimension of teaching and learning?

3. How will the use of times and spaces change in your university post-pandemic? (Please include links to relevant policy documents, reports or studies if relevant and available).

4. In light of the challenges brought about/exacerbated by the pandemic, how do you regard the actions of the new Erasmus+ Programme? Do you find its tools appropriate? Are there any specific challenges that this programme fails to address, in your opinion? Conversely, in what way is it likely to provide relief?

5. Has the official information on practices and policies provided by the European Commission and National Agencies until now been helpful? How could the support provided by different authorities be improved?

Mobility

1. Has your university experienced a decrease of incoming and outgoing mobility of students and staff in the first semester of 2020/21?

   O Yes O No

2. If YES, please indicate if the decrease has been:

   O Between 10 and 30 %

   O Between 30 and 50 %

   O Between 50 and 70 %

O More than 70 %

3. In light of the sanitary measures and the decrease of student, staff and teaching mobility, could you describe how your work as a mobility/international relations officer has been affected? Has your university developed a plan to mitigate any challenges related to this?

4. Do you foresee any risks of a long-term drop in student mobility? What can be done to boost academic exchange in a mid-term perspective? Please describe any good practices you may have developed. Please, mention if your university has taken measures to be able to deal with similar disrupting situations in the future.

5. Do you have special remarks/good practice examples worth mentioning which were particularly different from the regular management of mobility (e.g. in the use of the software, in the relation with partner universities, communication with students abroad, psychological support or any other issue)?

6. Can you provide successful examples of virtual mobility, as well as pros and cons encountered in the process (including academic/didactic challenges)? Are these and/or other practices worth maintaining in the future?

Development Cooperation

1. With regard to capacity building projects with partners in the Global South, can you mention any good practice examples? How did have communication and management procedures changed during the pandemic? Have they been more intensive, more efficient? If so: in what way?

2. Did your university provide a specific budget for a technically stable learning/exchange environment in partner countries?

   O Yes O No

   You may comment on/provide details about Question 2

3. Do you think that pure virtual mobility is a good alternative in times of pandemic to cope with the reality of almost no physical mobilities with non-European countries and the Global South? If so, why?

Teaching and Learning

1. What are the institutional 'lessons' learned in one year of online and/or hybrid teaching, learning and assessment? Are some of these experiences to be transferred in post-pandemic teaching and learning?

2. How have staff and students' well-being been addressed? What measures have been taken to support equity and inclusion across teaching, assessment and learning? In what ways has the pandemic impacted equality and diversity in the teaching and learning process in your institution? Through what concrete steps or measures do you plan to transform lessons learned in this area to improve teaching and learning in your institution in post-Covid-19 times?

3. What did universities invest in with respect to teaching and learning during the pandemic? (Was there a plan addressed to support teaching and learning? Recruitment of support staff? Technology per se?). What kind of professional development for teachers has been made available and how has the uptake been?

4. Is your institution mandating certain uses of technology (e.g. hybrid teaching, recording of lectures, synchronous tools). What about ethics in technology enhanced learning? Does your university provide specific recommendations regarding the identification of students? If so, please describe how this is done (recording of oral exams, proctoring, taking photos, …).

5. How did assessment work during pandemic? What have been the strengths and weaknesses?

6. How have universities adapted practical labs and student placements (e.g., students who are on placement in an industry/employer/clinical setting)?

Doctoral Studies

1. Which protocols and (online) activities will likely remain after the pandemic?

2. Has your university taken measures to deal with similar disrupting situations in the future, e.g. in setting up protocols on how to avoid a slowdown of doctoral theses?

3. How is your university dealing with insecurities, isolation, deadlines, possible funding gaps, family and health concerns of PhD candidates? For instance, do you have tools in place to monitor how the pandemic is affecting the mental health of your doctoral researchers? Are there any measures taken to support their well-being and if yes, who is strategically responsible for them? What actions are taken to secure equal opportunities for all doctoral researchers under pandemic conditions?

4. According to numerous studies, this pandemic has disproportionately hindered women's careers and research, based on disparities in the distribution of domestic workloads, disproportionate increases in caring responsibilities, and reduced career opportunities compared to men. How has this trend manifested in doctoral and research activities in your institution? How, through what concrete steps or measures, do you plan to utilize the lessons learned in this area to improve equity and inclusion in doctoral and research activities in your institution in post Covid-19 times?

1. How is doctoral supervision changing? Is there institutional awareness with respect to the challenges of distance-supervision and possibly organisational support?

2. How does the pandemic situation affect the mobility of early-stage researchers? Have the numbers of international doctoral researchers changed significantly at your university? Do you see a risk that virtual mobility will replace research stays as a guest researcher in other countries?

Research

1. Can you comment on the current status of research at your university? (e.g. What are the current restrictions at your university? How are they impacting research at your university?)

2. Can you provide details on mitigation measures at your university in relation to research? (e.g. What mitigation measures are currently in place at local or national level? Are they effective? Are there additional measures you would recommend to universities and policy-makers?)

3. Looking to the future, can you comment on the long term changes this pandemic will bring about at your university in relation to the working practices of research and research offices? (e.g. Have there been any positive impacts? Do you envisage a long-term changed future of work at your university for research? Has your university carried out any planning so far?)

4. According to numerous studies, this pandemic has disproportionately hindered women's careers and research, based on disparities in the distribution of domestic workloads, disproportionate increases in caring responsibilities, and reduced career opportunities compared to men. How has this trend manifested in research activities in your institution? How, through what concrete steps or measures, do you plan to utilize the lessons learned in this area to improve equity and inclusion in doctoral and research activities in your institution in post-Covid-19 times?

Career Services and Employability

1. Has the pandemic affected the type and scope of services offered by university career services (e.g. special topics for workshops, promotion of companies from special economic sectors, or activities aimed to meet the needs of specific groups, etc)? Which are the main challenges or needs arising from those changes in terms of staff, budget, skills, knowledge, etc? Please provide good practice examples and numbers, when possible.

2. Has the pandemic affected the way in which career services have been delivering their services to and communicating with students and employers? Which of those changes should be retained? What have been the challenges with virtual formats and how can they be addressed? Please mention any good practice examples from your institution. Do you think students/employers/staff are sufficiently prepared for a virtual environment? Which (digital) skills should be required?

3. Following the pandemic, could you describe how your work as a career service officer has been affected? Has your university developed a plan to mitigate any challenges related to this?

4. Describe the main changes in the labour market (including internships) resulting from the pandemic. How has the job market changed in your region/country following the Covid-19 crisis? Has it affected the number of job/internships available for students and graduates? Are there any new requirements, new skills/competences, work conditions, work formats? What are the implications in terms of staff, budget, skills, knowledge? Please, provide data when possible.

5. How should the new challenges and needs resulting from the pandemic be addressed? How can university governance support the career services offices in enhancing students' and graduates' employability? How can national and EU institutions support the career services offices in enhancing students' and graduates' employability? How can companies support career services to understand changes and new needs?

6. In a post-pandemic future, what role should career services play in promoting employability in higher education in terms of content, structure and strategy? From an institutional approach, which will be the success factors for career services to enhance students' and graduates' employability?

University Cultural Heritage

1. What means of communication are you using in your museums to engage with the public and the academic community? Please highlight any approaches you feel are particularly effective.

2. In your opinion, what will be the impact of the Covid-19 outbreak crisis in the medium-long term when it comes to universities cultural heritage? What possibilities do you see for rebuilding or evolving your own institution on the far side of the crisis?

3. Do you have any suggestions as to how the European Commission could provide support to universities in and following similar crisis situations?

Coimbra Group Universities

Aarhus Universitet (Denmark)

Universitat de Barcelona (Spain)

Universitet i Bergen (Norway)

Università degli Studi di Bologna (Italy)

University of Bristol (United Kingdom)

Eötvös Loránd Tudományegyetem, ELTE (Budapest, Hungary)

Universidade de Coimbra (Portugal)

Trinity College Dublin, the University of Dublin (Ireland)

Durham University (United Kingdom)

University of Edinburgh (United Kingdom)

National University of Ireland Galway (Ireland)

Université de Genève (Switzerland)

Georg-August-Universität Göttingen (Germany)

Universidad de Granada (Spain)

Karl-Franzens-Universität Graz (Austria)

Rijksuniversiteit Groningen (The Netherlands)

Ruprecht-Karls-Universität Heidelberg (Germany)

Universitatea Alexandru Ioan Cuza din Iaşi (Romania)

İstanbul Üniversitesi (Turkey)

Friedrich-Schiller-Universität Jena (Germany)

Universität zu Köln (Germany)

Uniwersytet Jagielloński w Krakówie (Poland)

Universiteit Leiden (The Netherlands)

Katholieke Universiteit Leuven (Belgium)

Université Catholique de Louvain (Belgium)

Université de Montpellier (France)

Université Paul-Valéry Montpellier 3 (France)

Università degli Studi di Padova (Italy)

Università degli Studi di Pavia (Italy)

Université de Poitiers (France)

Univerzita Karlova (Prague, Czech Republic)

Санкт-Петербургский государственный университет (Russia)

Universidad de Salamanca (Spain)

Università degli Studi di Siena (Italy)

Tartu Ülikool (Estonia)

Turun yliopisto (Turku, Finland)

Universiteit Utrecht (The Netherlands)

Uppsala universitet (Sweden)

Vilniaus universitetas (Lithuania)

Julius-Maximilian-Universität Würzburg (Germany)

Åbo Akademi (Finland)

The Coimbra Group Working Groups are communities of practitioners whose objective is to translate the association's policy priorities into collaborative activities aimed at providing a European response to global challenges. They bring together academics, senior management and administrative staff who have a pivotal role within their institutions, thus amplifying the outreach potential of the working group's activities.

Working Groups are set up with well-defined terms of reference by decision of the General Assembly. The work of each group is directed by a Chair elected by and among the group's members and supported by a Vice-Chair. The Executive Board oversees and co-ordinates the work of the Committees on the basis of their terms of reference and three-year work plans.

The variety of professional profiles, the geographical spread, the multi-disciplinary breadth of their members' expertise and, last but not least, a strong spirit of collegiality makes the working groups dynamic knowledge hubs whose mission is to find innovative solutions to global challenges.

To find out more about the Coimbra Group:

https://www.coimbra-group.eu

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https://www.coimbra-group.eu/our-working-groups/

UNIVERSITIES' RESPONSE TO THE COVID-19 CRISIS: WHAT HAVE WE LEARNT SO FAR?

Key messages and recommendations from Coimbra Group Universities