

**HANDBOOK FOR LEADERS IN HIGHER EDUCATION:
DEVELOPING AND DESIGNING INSTITUTIONAL POLICIES FOR
DIGITALLY ENHANCED (HYBRID/BLENDED) TEACHING
AND LEARNING**



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HANDBOOK FOR LEADERS IN HIGHER EDUCATION:

BLEARN_AUTONOMY

ERASMUS+ STRATEGIC PARTNERSHIP

Intellectual Output 03

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Executive summary ENGLISH

The enactment of higher education policies has followed an unprecedented sequence of innovation around blended and hybrid learning¹ because of the gradual dissemination of pedagogical and technological developments. These include quality assurance, qualification frameworks, employability programs, international mobility of students and teachers, and pedagogical training for higher education teachers. However, in early 2020 all universities across the world were compelled to shift abruptly to online teaching at a short notice, thus introducing online pedagogies that employ video conferencing software (such as Zoom, Teams, Meet and many others), learning management systems (such as Blackboard, Canvas, Moodle, and others) and online examination systems (such as Inspira). Today, many teachers have used these digital tools and virtual suites to reshape course designs, delivery, and evaluation. Although these tools were previously available, few had foreseen that they would be adopted at such a wide, global scale.

In this handbook, we explore how higher education institutions have used blended and hybrid learning to respond to the Covid-19 lockdown, particularly how institutional leaders and some teachers perceived that type of emergency education, and to what extent the whole process is changing the paradigm. To this end, the authors interviewed thirty-nine leaders and teachers who were involved in the management of this transition in six universities located in France, Norway, Poland, Portugal, and Spain. All the interviews with institutional leaders were conducted online through Teams or Zoom (except for one respondent, who preferred to send a written text). The interviews with

¹ Blended and hybrid learning consists of using digital tools to strengthen the interaction between teachers and students in classrooms. Sharing documents and sending e-mails would be the most basic applications, while asking a group of students to participate in an online forum or to prepare a digital work journal would be more elaborate applications.

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the teachers were conducted either in the facilities of the university or through a video call at the convenience of the interviewees. Although English was the language of the interview in many cases, some interviews were also conducted in Catalan, French, Portuguese, and Spanish.

The interviews were recorded, transcribed, and analysed. The content analysis of the transcriptions found six major themes that described that episode of abrupt digitalization from the point of view of these academics. To be precise, the main concerns of the respondents consisted of identifying challenges in abrupt digital transition, adopting approaches to facilitating the transition, seizing opportunities emerging in pedagogical experiences, formulating pedagogical principles, setting institutional priorities, and attuning teachers' strategies to the new circumstances of students' learning.

On the grounds of these emerging themes, the handbook attempts to develop evidence-driven guidelines that help universities to design institutional policies of blended and hybrid learning. The following list outlines the most promising characteristics of these policies:

- In the same way as the six universities redefined, embodied, and enacted many concepts such as inclusivity, connectedness, reciprocity, representativeness and adaptivity in the exercise of higher education pedagogy with the introduction of digital facilities, most higher education institutions can learn from their reaction to those challenges.
- During the lockdowns, the top-down approaches to management appeared to be co-driven and influenced by the bottom-up strategies involving teachers and students as well as by national and international stakeholders. This type of network governance involved many stakeholders and provided a reliable basis of information and criteria for decision-making.

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- Many interviewees notice that teaching has undergone both problematic and promising changes. In late 2022, the cornerstone of designing institutional policies regarding hybrid and blended learning lies in distinguishing the positive forces of change. Maintaining the overall education system no longer requires business as usual. Many leaders and teachers think that it is necessary to generate synergies between technological, pedagogical, and organisational changes.
- During the lockdowns, the integration of digital tools inspired leaders and teachers to experiment with empathetic, creative, critical, and flexible pedagogical and assessment practices across disciplines. Those improvised experiments set the grounds of further pedagogical innovation.
- A few years afterwards, teachers and leaders start to ponder the lasting potential of certain transformations for a necessary review of institutional priorities. They feel capable of discussing the key criteria that the institutions should consider when buying software adapted to the needs of teaching. They are aware of certain factors that either contributed or hindered the success of some innovations. They can carefully appraise the impact of those innovations on the interaction between students and teachers. Insofar as they acknowledge the challenges of students' adaptation, and they are increasingly interested in drawing on systematic evidence to review their courses, many teachers have concluded that a wide agenda must pattern their discussion with students. The traditional focus on grades must be framed within a wider set of issues including uses of digital technology, assessment systems, forms of communication, and conceptual maps.

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- It is indispensable to think carefully about the interaction between teachers and students. For both parties, certain themes are becoming increasingly relevant, for example, the rules of online courtesy, the best functional channels for practical instructions, the timing of academic feedback on students' assignments, and the contributions of digital exchanges in workshops, forum, games, portfolios and other environments to the learning outcomes and the key qualifications of a profession. Digital portfolios are very useful for some interviewees. Certainly, the institutional policy- designers can greatly learn from this corpus of expert knowledge if they conduct regular surveys by means of questionnaires, interviews, and focus groups. However, they can get an even better insight if they pool the evidence that some methods of assessing teaching automatically produce, for example, teachers' portfolios of their own practices and reports of peer review between different teachers.

Despite the inevitable organisational and pedagogical challenges, in this handbook we conclude that the abrupt transition to online teaching has created opportunities. Nowadays, universities can take stock of those emergency measures to seek for innovation as well as to experiment with alternative online course designs, delivery, and assessment.

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Resum executiu CATALAN

L'aprenentatge híbrid presencial i virtual consisteix a utilitzar eines digitals per reforçar la interacció entre professorat i estudiantat a les aules. Compartir documents i enviar correus electrònics en serien les aplicacions més bàsiques, mentre que demanar a un grup d'estudiants que participi en un fòrum en línia o que elabori un diari de treball digital en serien aplicacions més elaborades.

A l'educació superior les innovacions relacionades amb l'aprenentatge híbrid presencial i virtual han sorgit gradualment de noves definicions de diverses polítiques públiques, com ara la garantia de qualitat, els marcs de qualificació, els programes d'ocupabilitat, la mobilitat internacional d'estudiants i professors i la formació pedagògica per al personal docent. Ara bé, a principis de 2020 totes les universitats del món es van veure obligades de sobte a impartir la docència en línia, i adoptar bruscament eines digitals com ara les videoconferències (p.ex., Zoom, Teams, Meet i molts altres), els sistemes de gestió de l'aprenentatge (p.ex., Blackboard, Canvas, Moodle i altres) i els exàmens electrònics (p.ex., Inspira). El professorat les ha fet servir per replantejar el disseny, les classes i l'avaluació de les seves assignatures. Tot i que anteriorment aquestes eines eren a l'abast, ningú no n'havia previst una utilització a una escala tan àmplia i global.

En aquest manual explorem de quina manera les institucions d'educació superior han utilitzat l'aprenentatge híbrid presencial i virtual per tal de reaccionar davant el confinament de la Covid-19, sobretot com els equips de govern i una mostra de docents va interpretar aquesta mena d'educació d'emergència, i fins a quin punt tot el procés ha provocat un canvi de fons. Amb aquest propòsit, els autors van entrevistar trenta-nou directius i professors implicats en la gestió d'aquesta transició en sis universitats situades a França, Noruega, Polònia, Portugal i Espanya. Totes les entrevistes amb líders institucionals es van fer en línia a través de Teams o Zoom (excepte una persona, que va

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preferir enviar un text escrit). Les entrevistes amb professorat es van fer a les instal·lacions de la universitat o mitjançant una videotrucada a conveniència dels entrevistats. Tot i que l'anglès va ser l'idioma de l'entrevista en molts casos, en altres va ser el català, el francès, el portuguès i el castellà.

Les entrevistes van ser gravades, transcrites i analitzades. L'anàlisi del contingut de les transcripcions va trobar sis grans temes que descriuen aquell episodi de digitalització brusca des del punt de vista d'aquests acadèmics. Concretament, les principals preocupacions radicaven a identificar els reptes de la transició digital abrupta, adoptar enfocaments per facilitar la transició, aprofitar les oportunitats que sorgeixen en experiències pedagògiques, formular principis pedagògics, establir prioritats institucionals i sintonitzar les estratègies del professorat amb les noves circumstàncies de l'aprenentatge dels alumnes.

A partir d'aquests temes emergents, el manual intenta donar un seguit d'orientacions basades en l'evidència que ajudin les universitats a dissenyar polítiques institucionals d'aprenentatge híbrid presencial i virtual. La llista següent descriu els trets més apreciats d'aquestes polítiques:

- De la mateixa manera que, amb l'ús d'instruments digitals, les sis universitats van redefinir, concretar i articular els conceptes d'inclusió, connexió, reciprocitat, representativitat i adaptabilitat, les institucions d'educació superior poden aprendre de la seva pròpia experiència amb aquestes noves maneres de fer.
- Durant els confinaments, la gestió vertical de dalt a baix necessàriament va tenir en compte els suggeriments del professorat, l'alumnat, i també d'altres actors nacionals i internacionals. Aquest tipus de governança en xarxa va implicar molts actors i va proporcionar una base fiable d'informació i de criteris per a la presa de decisions.

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- Molts entrevistats noten que l'educació superior experimenta alhora els efectes perversos i els beneficis de la digitalització. A finals de 2022 la pedra angular del disseny de polítiques institucionals sobre l'aprenentatge híbrid presencial i virtual rau a distingir les forces positives del canvi. Mantenir el sistema educatiu en funcionament ja no consisteix només a seguir una rutina. Molts líders i professors pensen que cal generar sinergies entre els canvis tecnològics, pedagògics i organitzatius.
- Durant els confinaments, la integració d'eines digitals va inspirar els equips de govern, i el professorat va experimentar amb pràctiques pedagògiques i d'avaluació empàtiques, creatives, crítiques i flexibles en totes les disciplines. Aquells experiments improvisats van establir les bases d'innovacions pedagògiques amb un cert potencial.
- Uns anys després, alguns rectorats i molts docents els reprenen per revisar les prioritats institucionals a llarg termini. Se senten capaços de discutir els criteris clau que les institucions han de tenir en compte a l'hora de comprar un programari adaptat a les necessitats de la docència. Són conscients de certs factors que han contribuït o han dificultat l'èxit d'algunes innovacions. Poden avaluar acuradament l'impacte d'aquestes innovacions en la interacció entre estudiants i professors. En la mesura que reconeixen els reptes de l'adaptació dels estudiants, i cada cop fan servir millor l'evidència empírica quan preparen les seves assignatures, molts docents creuen que cal ampliar els termes del debat amb l'alumnat. A més de les qualificacions finals, altres temes rellevants han de ser els usos de la tecnologia digital, dels sistemes d'avaluació, de les formes de comunicació i dels mapes conceptuals que ordenen els continguts.

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- Cal reflexionar sobre la interacció entre professorat i alumnat amb molta cura. Per a ambdues parts certs temes són cada cop més rellevants, per exemple, les normes de cortesia en línia, els canals més idonis per donar instruccions pràctiques, o també l'intercanvi d'observacions sobre els treballs dels estudiants en tallers, fòrums, jocs, portafolis i altres entorns virtuals. Els portafolis digitals són molt útils segons diversos docents entrevistats. Aquestes observacions suggereixen que, a l'hora de prendre decisions, les autoritats acadèmiques poden treure molt profit d'un considerable bagatge de coneixement expert mitjançant qüestionaris, entrevistes i grups de discussió. Però també poden ampliar el seu camp de visió aprofitant mètodes d'avaluació de la docència que automàticament generen evidències, per exemple, informes docents sobre les pròpies pràctiques a l'aula física i virtual. Val la pena estendre aquesta reflexió als avantatges de l'avaluació de la docència entre parells, la qual integra diverses fonts d'evidència qualitativa sobre les interaccions concretes entre el professorat i l'alumnat.

Malgrat els inevitables reptes organitzatius i pedagògics, la nostra conclusió és que la transició brusca a l'ensenyament en línia ha obert certes oportunitats. Ara mateix, si les universitats avaluen amb cura les innovacions digitals que han anat aplicat gradualment abans i durant l'emergència, descobriran que el professorat ha après noves maneres d'organitzar assignatures, activitats i formes d'avaluació que articulin de maneres molt profitoses l'ensenyament presencial i virtual.

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Résumé analytique FRENCH

L'apprentissage hybride présentiel et virtuel consiste à utiliser des outils numériques pour renforcer l'interaction entre les enseignants et les élèves. Le partage de documents et l'envoi d'e-mails seraient parmi les applications les plus basiques, tandis que demander à un groupe d'étudiants de participer à un forum en ligne ou de tenir un journal de travail numérique seraient des applications plus élaborées.

Dans l'enseignement supérieur, des innovations liées à l'apprentissage hybride en présentiel et virtuel ont progressivement fait émerger de nouvelles définitions de diverses politiques publiques, telles que l'assurance qualité, les cadres de certification, les programmes d'employabilité, la mobilité internationale des étudiants et des enseignants et la formation pédagogique pour les enseignants du supérieur. Depuis le début de 2020, toutes les universités du monde ont été soudainement obligées d'enseigner en ligne, adoptant brusquement des outils numériques tels que la vidéoconférence (par exemple Zoom, Teams, Meet et bien d'autres), la gestion de l'apprentissage (par exemple, Blackboard, Canvas, Moodle et autres) et les examens électroniques (par exemple, Inspira). Les enseignants les ont utilisés pour repenser la conception de leur les cours et l'évaluation de leurs matières. Bien que ces outils aient été auparavant à notre portée, personne n'avait prévu leur utilisation à une échelle aussi large et mondiale.

Dans ce manuel, nous explorons comment les établissements d'enseignement supérieur ont utilisé l'apprentissage hybride en face à face et virtuel pour réagir au confinement imposé par le Covid-19, en particulier comment les instances dirigeantes et un échantillon d'enseignants ont perçu ce type d'éducation d'urgence, et dans quelle mesure l'ensemble du processus a provoqué un changement fondamental. Pour cela, les auteurs ont interrogé trente-neuf managers et enseignants impliqués dans la gestion de cette transition dans six universités situées en France, en Norvège, en Pologne, au Portugal et

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en Espagne. Tous les entretiens avec les responsables institutionnels ont été réalisés en ligne via Teams ou Zoom (à l'exception d'une personne, qui a préféré envoyer un texte écrit). Les entretiens avec les professeurs ont été menés dans les locaux de l'université ou par appel vidéo à la convenance des personnes interrogées. Bien que l'anglais ait été la langue de l'entretien dans de nombreux cas, dans d'autres, c'était le catalan, le français, le portugais et l'espagnol.

Les entretiens ont été enregistrés, transcrits et analysés. L'analyse du contenu des transcriptions a permis de dégager six thèmes majeurs qui décrivent cet épisode de numérisation soudaine du point de vue de ces universitaires. Plus précisément, les principales préoccupations étaient d'identifier les défis de la transition numérique brutale, d'adopter des approches pour faciliter la transition, de tirer parti des opportunités qui se présentent dans les expériences pédagogiques, de formuler des principes pédagogiques, d'établir des priorités institutionnelles et d'adapter les stratégies des enseignants aux nouvelles circonstances du monde de l'apprentissage des élèves.

À partir de ces thèmes émergents, le manuel tente de fournir une série de lignes directrices basées sur des preuves empiriques qui aident les universités à concevoir des politiques institutionnelles pour l'apprentissage hybride en face à face et virtuel. La liste suivante décrit les caractéristiques les plus remarquables de ces stratégies :

- De la même manière qu'avec l'utilisation d'instruments numériques, les six universités ont redéfini, précisé et articulé les concepts d'inclusion, de connexion, de réciprocité, de représentativité et d'adaptabilité. Les établissements d'enseignement supérieur peuvent apprendre de leur propre expérience avec ces nouvelles pratiques.
- Pendant les confinements, la gestion verticale descendante a pris en compte les suggestions des enseignants et des étudiants, ainsi que d'autres acteurs nationaux

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et internationaux. Ce type de gouvernance en réseau impliquait de nombreux acteurs et fournissait une base fiable d'informations et de critères pour la prise de décision.

● De nombreuses personnes interrogées estiment que l'enseignement supérieur subit à la fois les effets pervers et les avantages de la numérisation. D'ici la fin de 2022, la pierre angulaire de la conception des politiques institutionnelles sur l'apprentissage hybride en face à face et virtuel consiste à distinguer les forces positives du changement. Le maintien de l'ensemble du système éducatif ne repose plus sur le fonctionnement habituel. De nombreux dirigeants et enseignants pensent qu'il est nécessaire de générer des synergies entre les changements technologiques, pédagogiques et organisationnels.

● Pendant les confinements, l'intégration d'outils numériques a inspiré les équipes de gouvernance et les professeurs pour mettre en pratique des évaluations et des séquences pédagogiques empathiques, créatives, critiques et flexibles dans toutes les disciplines. Ces expérimentations improvisées ont jeté les bases d'innovations pédagogiques à fort potentiel.

● Quelques années plus tard, les enseignants et les responsables commencent à s'interroger sur le caractère durable de certaines transformations pour une révision nécessaire des priorités institutionnelles. Ils se sentent capables de s'interroger sur les critères clés que les établissements doivent prendre en compte pour se procurer des logiciels adaptés aux besoins de l'enseignement. Ils sont conscients de certains facteurs qui ont contribué ou entravé le succès de certaines innovations. Ils peuvent évaluer avec soin l'impact de ces innovations sur l'interaction entre les élèves et les enseignants. Dans la mesure où ils reconnaissent les enjeux de l'adaptation des élèves et utilisent de plus en plus des données empiriques dans la préparation de leurs cours, de nombreux enseignants

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estiment qu'il est nécessaire d'élargir les termes du débat avec les élèves. La priorité traditionnelle accordée aux notes doit s'inscrire dans le cadre d'un ensemble plus large de préoccupations comprenant les utilisations de la technologie numérique, les systèmes d'évaluation, les formes de communication et les cartes conceptuelles.

● Une réflexion approfondie sur l'interaction entre enseignants et élèves est essentielle. Pour ces deux derniers, certains sujets sont de plus en plus d'actualité, par exemple les règles de courtoisie en ligne, les canaux les plus adaptés pour donner des consignes pratiques, ou encore le retour sur les travaux des étudiants dans des ateliers, forums, jeux, portfolio et autres environnements virtuels. Les portfolios numériques sont très utiles selon plusieurs enseignants interrogés. Il est certain que les responsables de la conception des politiques institutionnelles peuvent tirer un grand profit de ce corpus de connaissances spécialisées s'ils mènent des enquêtes régulières au moyen de questionnaires. Cependant, ils peuvent obtenir un meilleur aperçu s'ils rassemblent les preuves que certaines méthodes d'évaluation des enseignements produisent automatiquement, par exemple, les portfolios des enseignants sur leurs propres pratiques et les rapports d'évaluation par les pairs entre différents enseignants.

Malgré les inévitables défis organisationnels et pédagogiques, notre conclusion est que la transition brutale vers l'enseignement en ligne a ouvert certaines opportunités. À l'heure actuelle, si les universités évaluent rigoureusement les outils numériques qu'elles ont appliqués avant et pendant l'urgence, elles découvriront probablement de nombreuses suggestions pour expérimenter des matières, des activités et des formes d'évaluation qui articulent l'enseignement présentiel et virtuel de manière très fructueuse.

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Podsumowanie wykonawcze POLISH

Hybrydowa nauka twarzą w twarz i wirtualna polega na wykorzystaniu narzędzi cyfrowych do wzmocnienia interakcji między nauczycielami i uczniami w klasie. Udostępnianie dokumentów i wysyłanie e-maili byłyby najbardziej podstawowymi zastosowaniami, podczas gdy zaproszenie grupy studentów do udziału w forum internetowym lub prowadzenia cyfrowego dziennika pracy byłoby bardziej skomplikowanymi aplikacjami.

W szkolnictwie wyższym innowacje związane z hybrydowym nauczaniem bezpośrednim i wirtualnym stopniowo wyłaniały się z nowych definicji różnych polityk publicznych, takich jak zapewnianie jakości, ramy kwalifikacji, programy zwiększające szanse na zatrudnienie, międzynarodowa mobilność studentów i nauczycieli oraz szkolenie pedagogiczne w zakresie nauczania personel. Teraz, na początku 2020 r., wszystkie uniwersytety na całym świecie zostały nagle zmuszone do nauczania online, nagle wprowadzając narzędzia cyfrowe, takie jak wideokonferencje (np. Zoom, Teams, Meet i wiele innych), zarządzanie nauką (np. Blackboard, Canvas, Moodle i inne). oraz egzaminy elektroniczne (np. Inspira). Nauczyciele wykorzystali je do ponownego przemyślenia projektu, klas i oceny swoich przedmiotów. Chociaż narzędzia te były wcześniej w Twoim zasięgu, nikt nie przewidywał ich zastosowania na tak szeroką i globalną skalę.

W tym podręczniku badamy, w jaki sposób instytucje szkolnictwa wyższego wykorzystywały hybrydowe nauczanie twarzą w twarz i wirtualną, aby zareagować na blokadę Covid-19, w szczególności w jaki sposób zespoły rządowe i próba nauczycieli zinterpretowały ten rodzaj edukacji w sytuacjach nagłych oraz w jakim stopniu cały proces spowodował fundamentalną zmianę. W tym celu autorzy przeprowadzili wywiady z trzydziestoma dziewięcioma menedżerami i profesorami zaangażowanymi w zarządzanie tą transformacją na sześciu uniwersytetach zlokalizowanych we Francji, Norwegii, Polsce, Portugalii i Hiszpanii. Wszystkie wywiady z liderami instytucjonalnymi

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zostały przeprowadzone online za pośrednictwem Teams lub Zoom (z wyjątkiem jednej osoby, która wolała wysłać tekst pisemny). Wywiady z wykładowcami zostały przeprowadzone w placówkach uniwersyteckich lub poprzez wideorozmowę dla wygody rozmówców. Chociaż w wielu przypadkach językiem wywiadów był angielski, w innych był to kataloński, francuski, portugalski i hiszpański.

Wywiady były nagrywane, transkrybowane i analizowane. Analiza treści transkryptów wykazała sześć głównych tematów opisujących ten epizod nagłej digitalizacji z punktu widzenia tych naukowców. W szczególności główne obawy dotyczyły określenia wyzwań związanych z gwałtowną transformacją cyfrową, przyjęcia podejść ułatwiających przejście, wykorzystania możliwości pojawiających się w doświadczeniach pedagogicznych, sformułowania zasad pedagogicznych, ustalenia priorytetów instytucjonalnych i dostosowania strategii nauczycieli do nowych okoliczności świata, nauka ucznia.

Na podstawie tych pojawiających się tematów podręcznik próbuje dostarczyć szereg wytycznych opartych na dowodach empirycznych, które pomogą uniwersytetom w opracowaniu polityk instytucjonalnych dotyczących hybrydowego uczenia się twarzą w twarz i wirtualnego uczenia się. Poniższa lista opisuje najbardziej zauważalne cechy tych zasad:

- W ten sam sposób, w jaki przy użyciu instrumentów cyfrowych sześć uniwersytetów na nowo zdefiniowało, określiło i sformułowało koncepcje włączenia, połączenia, wzajemności, reprezentatywności i adaptacyjności, instytucje szkolnictwa wyższego mogą uczyć się na podstawie własnych doświadczeń z tymi nowymi praktykami.
- Podczas odosobnienia odgórne zarządzanie pionowe uwzględniło sugestie nauczycieli i uczniów, a także innych podmiotów krajowych i międzynarodowych.

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Ten rodzaj zarządzania siecią angażował wiele podmiotów i zapewniał wiarygodną podstawę informacji i kryteriów podejmowania decyzji.

- Wielu respondentów uważa, że szkolnictwo wyższe doświadcza zarówno przewrotnych skutków, jak i korzyści płynących z cyfryzacji. Do końca 2022 r. podstawą projektowania polityki instytucjonalnej dotyczącej hybrydowego uczenia się twarzą w twarz i wirtualnego uczenia się jest rozróżnienie pozytywnych sił zmian. Utrzymanie funkcjonowania systemu edukacji nie polega już tylko na przestrzeganiu rutyny. Wielu liderów i nauczycieli uważa, że konieczne jest generowanie synergii między zmianami technologicznymi, pedagogicznymi i organizacyjnymi.
- Podczas blokad integracja narzędzi cyfrowych zainspirowała zespoły zarządzające, a wykładowcy eksperymentowali z empatyczną, kreatywną, krytyczną i elastyczną oceną oraz praktykami pedagogicznymi w różnych dyscyplinach. Te improwizowane eksperymenty położyły podwaliny pod innowacje pedagogiczne z pewnym potencjałem.
- Kilka lat później niektóre rektoraty i wielu nauczycieli odzyskuje je, aby dokonać przeglądu długoterminowych priorytetów instytucjonalnych. Czują się w stanie omówić kluczowe kryteria, jakie instytucje muszą wziąć pod uwagę, aby zakupić oprogramowanie dostosowane do potrzeb nauczania. Są świadomi pewnych czynników, które przyczyniły się lub utrudniły powodzenie niektórych innowacji. Mogą dokładnie ocenić wpływ tych innowacji na interakcję między uczniami a nauczycielami. W zakresie, w jakim dostrzegają wyzwania związane z adaptacją uczniów i coraz częściej wykorzystują dowody empiryczne podczas przygotowywania swoich kursów, wielu nauczycieli uważa, że konieczne jest poszerzenie zakresu debaty z uczniami. Oprócz ocen końcowych, innymi

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istotnymi tematami muszą być zastosowania technologii cyfrowej, systemy oceny, formy komunikacji i mapy pojęciowe porządkujące treść.

- Niezbędna jest uważna refleksja na temat interakcji między nauczycielami a uczniami. Dla obu stron coraz większe znaczenie mają pewne tematy, na przykład zasady grzeczności online, najodpowiedniejsze kanały udzielania praktycznych instrukcji, czy też wymiana spostrzeżeń na temat pracy uczniów na warsztatach, forach, grach, portfolio i innych wirtualnych środowiska. Według kilku ankietowanych nauczycieli, portfolio cyfrowe jest bardzo przydatne. Ta obserwacja sugeruje, że przy podejmowaniu decyzji władze akademickie mogą w dużym stopniu korzystać ze znacznego zasobu wiedzy eksperckiej poprzez ankiety, wywiady i grupy fokusowe. Ale mogą również poszerzyć swoje pole widzenia, korzystając z metod oceny nauczania, które automatycznie generują dowody, na przykład raportów nauczania na temat własnych praktyk w klasie fizycznej i wirtualnej. Warto rozszerzyć tę refleksję na zalety ewaluacji nauczania rówieśniczego, które integruje różne źródła dowodów jakościowych na temat konkretnych interakcji między nauczycielami i uczniami.

Pomimo nieuniknionych wyzwań organizacyjnych i pedagogicznych, nasz wniosek jest taki, że nagłe przejście na nauczanie online otworzyło pewne możliwości. W tej chwili, jeśli uniwersytety rygorystycznie ocenią narzędzia cyfrowe, które zastosowały przed i podczas sytuacji kryzysowej, prawdopodobnie odkryją wiele sugestii dotyczących eksperymentowania z przedmiotami, czynnościami i formami oceny, które wyrażają nauczanie bezpośrednio i wirtualne w bardzo opłacalny sposób. sposoby.

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Sumário sucinto PORTUGUESE

A aprendizagem híbrida presencial e virtual consiste no uso de ferramentas digitais para reforçar a interação entre professores e alunos em sala de aula. Compartilhar documentos e enviar e-mails seriam as aplicações mais básicas, enquanto pedir a um grupo de alunos para participar num fórum online ou manter um diário de trabalho digital seriam aplicações mais elaboradas.

No ensino superior, as inovações relacionadas com a aprendizagem híbrida presencial e virtual surgiram gradualmente a partir de novas definições de várias políticas públicas, como garantia de qualidade, quadros de qualificação, programas de empregabilidade, mobilidade internacional de alunos e professores e formação pedagógica para professores. o início de 2020, todas as universidades do mundo foram repentinamente forçadas a ensinar online, adotando abruptamente ferramentas digitais como videoconferência (por exemplo, Zoom, Teams, Meet e muitas outras), plataformas virtuais e institucionais de aprendizagem (por exemplo, Blackboard, Canvas, Moodle e outros) e exames em suporte digital (por exemplo, Inspera). Estas ferramentas têm sido usadas pelos professores para repensar o desenho, as aulas e a avaliação de suas disciplinas. Embora essas ferramentas estivessem anteriormente ao seu alcance, ninguém havia previsto seu uso em uma escala tão ampla e global.

Neste manual, exploramos como as instituições de ensino superior usaram a aprendizagem híbrida presencial e virtual para reagir ao bloqueio do Covid-19, em particular, como as equipas do governo e uma amostra de professores interpretaram esse tipo de educação de emergência e até que ponto todo o processo causou uma mudança fundamental. Para este fim, os autores entrevistaram trinta e nove gestores e professores envolvidos na gestão dessa transição em seis universidades localizadas na França, Noruega, Polónia, Portugal e Espanha. Todas as entrevistas com os líderes institucionais foram feitas online através do Teams ou Zoom (com exceção de uma pessoa, que preferiu

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enviar um texto escrito). As entrevistas com os docentes foram realizadas nas dependências da universidade ou por meio de videochamada, segundo a preferência dos entrevistados. Embora o inglês tenha sido o idioma da entrevista em muitos casos, em outros foi o catalão, o francês, o português ou o espanhol.

As entrevistas foram gravadas, transcritas e analisadas. A análise de conteúdo das transcrições encontrou seis grandes temas que descrevem esse episódio de digitalização repentina do ponto de vista desses acadêmicos. Especificamente, as principais preocupações foram identificar os desafios da transição digital abrupta, adotar abordagens para facilitar a transição, aproveitar as oportunidades que surgem nas experiências pedagógicas, formular princípios pedagógicos, estabelecer prioridades institucionais e sintonizar as estratégias dos professores com as novas circunstâncias de aprendizagem do aluno.

A partir desses temas emergentes, o manual tenta fornecer uma série de diretrizes baseadas em evidências empíricas que auxiliam as universidades a desenhar políticas institucionais para a aprendizagem híbrida presencial e virtual. A lista a seguir descreve as características mais notáveis dessas políticas:

- Da mesma forma que, com o uso de instrumentos digitais, as seis universidades redefiniram, especificaram e articularam os conceitos de inclusão, conexão, reciprocidade, representatividade e adaptabilidade, às instituições de ensino superior podem aprender com a própria experiência com essas novas práticas.
- Durante os confinamentos, a gestão vertical de cima para baixo, teve em conta as sugestões de professores e alunos, bem como de outros atores nacionais e internacionais.

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Esse tipo de administração de rede envolveu muitos atores e forneceu uma base confiável de informações e critérios para a tomada de decisões.

- Muitos entrevistados sentem que o ensino superior está experimentando tanto os efeitos perversos quanto os benefícios da digitalização. Até o final de 2022, a pedra angular do desenho de políticas institucionais sobre aprendizagem híbrida presencial e virtual está em distinguir as forças positivas da mudança. Manter o sistema educacional a funcionar tornou-se numa rotina. Muitos líderes e professores pensam que é necessário gerar sinergias entre mudanças tecnológicas, pedagógicas e organizacionais.
- Durante os confinamentos , a integração de ferramentas digitais inspirou equipas de direção e os professores experimentaram avaliações e práticas pedagógicas empáticas, criativas, críticas e flexíveis em todas as disciplinas. Esses experimentos improvisados lançaram as bases para inovações pedagógicas com algum potencial.
- Alguns anos depois, algumas reitorias e muitos professores recuperaram esses procedimentos para rever as prioridades institucionais de longo prazo. Sentem-se capazes de discutir os principais critérios que as instituições devem ter em conta para adquirir software adaptado às necessidades do ensino. Eles estão cientes de certos fatores que contribuíram ou dificultaram o sucesso de algumas inovações. Eles podem avaliar cuidadosamente o impacto dessas inovações na interação entre alunos e professores. Na medida em que reconhecem os desafios da adaptação dos alunos e utilizam cada vez mais evidências empíricas na elaboração dos seus cursos, muitos professores acreditam ser necessário ampliar os termos do debate com os alunos. Além das notas finais, outros tópicos relevantes devem ser os usos da tecnologia digital,

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sistemas de avaliação, formas de comunicação e mapas conceituais que ordenam os conteúdos.

- Uma reflexão cuidadosa sobre a interação entre professores e alunos é essencial. Para ambas as partes, determinados temas são cada vez mais relevantes, por exemplo, as regras de cortesia online, os canais mais adequados para dar instruções práticas, ou ainda a troca de observações sobre o trabalho dos alunos em workshops , fóruns, jogos, portfólios e outros ambientes. Os portfólios digitais são muito úteis de acordo com vários professores entrevistados. Essa observação sugere que, ao tomar decisões, as autoridades acadêmicas podem tirar muito proveito de um volume considerável de conhecimento especializado por meio de questionários, entrevistas e grupos focais. Mas eles também podem ampliar seu campo de visão aproveitando os métodos de avaliação de ensino que geram evidências automaticamente, por exemplo, relatórios de professores sobre as suas próprias práticas em sala de aula física e virtual. Vale a pena estender esta reflexão às vantagens da avaliação do ensino pelos pares, que integra várias fontes de evidência qualitativa sobre as interações específicas entre professores e alunos.

Apesar dos inevitáveis desafios organizacionais e pedagógicos, a nossa conclusão é que a transição abrupta para o ensino online abriu algumas oportunidades. Neste momento, se as universidades avaliarem rigorosamente as ferramentas digitais que aplicaram antes e durante a emergência, provavelmente descobrirão muitas sugestões para experimentar disciplinas, atividades e formas de avaliação que articulem o ensino presencial e o virtual de forma muito proveitosa.

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Resumen ejecutivo SPANISH

El aprendizaje híbrido presencial y virtual consiste en utilizar herramientas digitales para reforzar la interacción entre profesorado y estudiantado en las aulas. Compartir documentos y enviar correos electrónicos serían las aplicaciones más básicas, mientras que pedir a un grupo de estudiantes que participe en un foro en línea o que elabore un diario de trabajo digital serían aplicaciones más elaboradas.

En la educación superior las innovaciones relacionadas con el aprendizaje híbrido presencial y virtual han surgido paulatinamente de nuevas definiciones de diversas políticas públicas, como la garantía de calidad, los marcos de cualificación, los programas de empleabilidad, la movilidad internacional de estudiantes y profesores y la formación pedagógica para el personal docente. Ahora bien, a principios de 2020 todas las universidades del mundo se vieron obligadas de repente a impartir la docencia en línea, y adoptar bruscamente herramientas digitales como las videoconferencias (p.ej., Zoom, Teams, Meet y muchos otros), los sistemas de gestión del aprendizaje (p.ej., Blackboard, Canvas, Moodle y otros) y los exámenes electrónicos (p.ej., Inspera). El profesorado las ha utilizado para replantear el diseño, las clases y la evaluación de sus asignaturas. Aunque anteriormente estas herramientas estaban a su alcance, nadie había previsto su utilización a una escala tan amplia y global.

En este manual exploramos cómo las instituciones de educación superior han utilizado el aprendizaje híbrido presencial y virtual para reaccionar ante el confinamiento de la Covid-19, sobre todo cómo los equipos de gobierno y una muestra de docentes interpretó este tipo de educación de emergencia, y hasta qué punto todo el proceso ha provocado un cambio de fondo. Con este propósito, los autores entrevistaron a treinta y nueve directivos y profesores implicados en la gestión de esta transición en seis universidades situadas en Francia, Noruega, Polonia, Portugal y España. Todas las entrevistas con líderes institucionales se hicieron online a través de Teams o Zoom (excepto una persona,

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que prefirió enviar un texto escrito). Las entrevistas con profesorado se realizaron en las instalaciones de la universidad o mediante una videollamada a conveniencia de los entrevistados. Aunque el inglés fue el idioma de la entrevista en muchos casos, en otros fueron el catalán, el francés, el portugués y el castellano.

Las entrevistas fueron grabadas, transcritas y analizadas. El análisis de contenido de las transcripciones encontró seis grandes temas que describen dicho episodio de digitalización brusca desde el punto de vista de estos académicos. Concretamente, las principales preocupaciones radicaban en identificar los retos de la transición digital abrupta, adoptar enfoques para facilitar la transición, aprovechar las oportunidades que surgen en experiencias pedagógicas, formular principios pedagógicos, establecer prioridades institucionales y sintonizar las estrategias del profesorado con las nuevas circunstancias del aprendizaje de los alumnos.

A partir de estos temas emergentes, el manual intenta dar una serie de orientaciones basadas en pruebas empíricas que ayuden a las universidades a diseñar políticas institucionales de aprendizaje híbrido presencial y virtual. La siguiente lista describe los rasgos más apreciables de estas políticas:

- De la misma forma en que, con el uso de instrumentos digitales, las seis universidades redefinieron, concretaron y articularon los conceptos de inclusión, conexión, reciprocidad, representatividad y adaptabilidad, las instituciones de educación superior pueden aprender de su propia experiencia con estas nuevas prácticas.
- Durante los confinamientos, la gestión vertical de arriba abajo tuvo muy en cuenta las sugerencias del profesorado y alumnado, así como de otros actores nacionales e internacionales. Este tipo de gobernanza en red implicó a muchos actores y

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proporcionó una base fiable de información y de criterios para la toma de decisiones.

- Muchos entrevistados sienten que la educación superior experimenta a la vez los efectos perversos y los beneficios de la digitalización. A finales de 2022, la piedra angular del diseño de políticas institucionales sobre el aprendizaje híbrido presencial y virtual radica en distinguir las fuerzas positivas del cambio. Mantener el sistema educativo en funcionamiento ya no consiste sólo en seguir una rutina. Muchos líderes y profesores piensan que es necesario generar sinergias entre los cambios tecnológicos, pedagógicos y organizativos.
- Durante los confinamientos, la integración de herramientas digitales inspiró a los equipos de gobierno, y el profesorado experimentó con prácticas pedagógicas y de evaluación empáticas, creativas, críticas y flexibles en todas las disciplinas. Aquellos experimentos improvisados sentaron las bases de innovaciones pedagógicas con cierto potencial.
- Unos años después algunos rectorados y muchos docentes los recuperan para revisar las prioridades institucionales a largo plazo. Se sienten capaces de discutir los criterios clave que las instituciones deben tener en cuenta para comprar un software adaptado a las necesidades de la docencia. Son conscientes de ciertos factores que han contribuido o han dificultado el éxito de algunas innovaciones. Pueden evaluar cuidadosamente el impacto de estas innovaciones en la interacción entre estudiantes y profesores. En la medida en que reconocen los retos de la adaptación de los estudiantes, y cada vez utilizan mejor la evidencia empírica cuando preparan sus asignaturas, muchos docentes creen que es necesario ampliar los términos del debate con el alumnado. Además de las calificaciones finales, otros temas relevantes deben ser los usos de la tecnología

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digital, los sistemas de evaluación, las formas de comunicación y los mapas conceptuales que ordenan los contenidos.

- Una reflexión atenta sobre la interacción entre profesorado y alumnado es indispensable. Para ambas partes ciertos temas son cada vez más relevantes, por ejemplo, las normas de cortesía en línea, los canales más idóneos para dar instrucciones prácticas, o también el intercambio de observaciones sobre los trabajos de los estudiantes en talleres, foros, juegos, portafolio y otros entornos virtuales. Los portafolios digitales son muy útiles según varios docentes entrevistados. Esta observación sugiere que, a la hora de tomar decisiones, las autoridades académicas pueden sacar mucho provecho de un considerable bagaje de conocimiento experto mediante cuestionarios, entrevistas y grupos de discusión. Pero también pueden ampliar su campo de visión aprovechando métodos de evaluación de la docencia que automáticamente generan evidencias, por ejemplo informes docentes sobre las propias prácticas en el aula física y virtual. Merece la pena extender esta reflexión a las ventajas de la evaluación de la docencia entre pares, la cual integra diversas fuentes de evidencia cualitativa sobre las interacciones concretas entre el profesorado y el alumnado.

A pesar de los inevitables retos organizativos y pedagógicos, nuestra conclusión es que la transición brusca a la enseñanza en línea ha abierto ciertas oportunidades. Ahora mismo, si las universidades evalúan con rigor las herramientas digitales que han aplicado antes y durante la emergencia, probablemente descubrirán muchas sugerencias para experimentar asignaturas, actividades y formas de evaluación que articulen formas muy provechosas la enseñanza presencial y virtual.

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Kortfattet sammendrag NORWEGIAN

Vedtak angående politikk for høyere utdanning har fulgt en enestående sekvens av innovasjon rundt blandet og hybrid læring på grunn av en gradvis utbredelse av pedagogisk og teknologisk utvikling. Disse inkluderer kvalitetssikring, kvalifikasjonsrammer, programmer for å gjøre personer ansettbare, internasjonal mobilitet for studenter og lærere, og pedagogiske kurs for lærere i høyere utdanning. Tidlig i 2020 ble imidlertid alle universiteter over hele verden tvunget til å brått skifte til nettbasert undervisning, og dermed introdusere nettpedagogikk som bruker programvare for videokonferanser (som Zoom, Teams, Meet og mange andre), digitale læringsplattformer (som f.eks. som Blackboard, Canvas, Moodle og andre) og nettbaserte eksamenssystemer (som Inspera). Mange lærere har brukt disse digitale verktøyene og virtuelle rommene til å omforme kursdesign, levering og evaluering. Selv om disse verktøyene tidligere var tilgjengelige, var det få som hadde forutsett at de ville bli tatt i bruk i en så bred, global skala.

I denne håndboken utforsker vi hvordan høyere utdanningsinstitusjoner har brukt blandet og hybrid læring for å reagere på Covid-19-nedstengingen, spesielt hvordan institusjonelle ledere og noen lærere oppfattet den typen akuttutdanning, og i hvilken grad hele prosessen endrer paradigmet. For dette formålet intervjuet forfatterne 39 ledere og lærere som var involvert i ledelsen av denne overgangen, ved seks universiteter lokalisert i Frankrike, Norge, Polen, Portugal og Spania. Alle intervjuene med institusjonsledere ble gjennomført online gjennom Teams eller Zoom (bortsett fra én respondent, som foretrakk å sende en skriftlig tekst). Intervjuene med lærerne ble utført enten på universitetet eller gjennom en videosamtale når intervjuobjektene ønsket det. Selv om engelsk var intervjuspråket i mange tilfeller, ble noen intervjuer også utført på katalansk, fransk, portugisisk og spansk.

Intervjuene ble tatt opp, transkribert og analysert. I analysen av transkripsjonene fant man seks hovedtemaer som beskrev perioden med brå digitalisering fra disse akademikernes synspunkt. Respondentenes hovedbekymring var å identifisere utfordringer i brå digital

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overgang, finne tilnærminger for å lette overgangen, gripe mulighetene som åpenbarte seg gjennom disse pedagogiske erfaringene, formulere pedagogiske prinsipper, sette institusjonelle prioriteringer og tilpasse lærernes strategier til de nye omstendighetene rundt elevenes læring.

På bakgrunn av disse nye temaene forsøker håndboken å utvikle evidensdrevne retningslinjer som hjelper universiteter med å utforme institusjonelle retningslinjer for blandet og hybrid læring. Følgende liste skisserer de mest lovende egenskapene til disse retningslinjene:

- På samme måte som de seks universitetene redefinerte, legemliggjorde og vedtok begreper som inkludering, tilknytning, gjensidighet, representativitet og tilpasningsevne i utøvelsen av høyere utdanningspedagogikk ved innføringen av digitale fasiliteter, kan de fleste høyere utdanningsinstitusjoner lære av deres reaksjon på disse utfordringene.
- Under nedstengningene så man at ovenfra-ned-tilnærming til ledelse virket sammen med og ble påvirket av nedenfra-og-opp-strategiene som involverer lærere og studenter, så vel som av nasjonale og internasjonale interessenter. Denne typen nettverksstyring involverte mange interessenter, og gav et pålitelig informasjonsgrunnlag og klare kriterier for beslutningstaking.
- Mange intervjuobjekter merker at undervisningen har gjennomgått både problematiske og lovende endringer. Mot slutten av 2022 er det sentralt å skille ut de positive endringskreftene når man skal utforme institusjonelle retningslinjer angående hybrid og blandet læring. For å opprettholde et helhetlig utdanningssystem kreves det ikke lenger at man gjør ting som tidligere. Mange ledere og lærere mener det er nødvendig å skape synergier mellom teknologiske, pedagogiske og

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organisatoriske

endringer.

- Under nedstengningene inspirerte integreringen av digitale verktøy ledere og lærere til å eksperimentere med empatiske, kreative, kritiske og fleksible pedagogiske og vurderingspraksiser på tvers av disipliner. Disse improviserte eksperimentene legger grunnlaget for ytterligere pedagogisk innovasjon.
- Noen år senere begynner lærere og ledere å gruble over det varige potensialet i visse transformasjoner, for en nødvendig gjennomgang av institusjonelle prioriteringer. De føler seg i stand til å diskutere nøkkeltrekkene som institusjonene bør vurdere ved kjøp av programvare tilpasset undervisningens behov. De er klar over visse faktorer som enten bidro til eller hindret suksessen til noen innovasjoner. De kan nøye vurdere virkningen av disse innovasjonene på samspillet mellom elever og lærere. I den grad de anerkjenner utfordringene med elevenes tilpasning, og de er i økende grad interessert i å trekke på systematisk evidens for å vurdere undervisningen sin, har mange lærere konkludert med at en bred agenda må kjennetegne deres diskusjon med elevene. Det tradisjonelle fokuset på karakterer må rammes inn i et bredere sett av problemstillinger, inkludert bruk av digital teknologi, vurderingssystemer, kommunikasjonsformer og konseptuelle kart.
- Det er helt nødvendig å tenke nøye gjennom samspillet mellom lærere og elever. For begge parter blir visse temaer stadig mer relevante, for eksempel reglene for høflighet på nett, de mest funksjonelle kanalene for praktiske instruksjoner, tidspunktet for akademiske tilbakemeldinger på studentenes oppgaver, og bidragene fra digital utveksling i workshops, forum, spill, porteføljer og andre miljøer knyttet til læringsutbyttet og de viktigste kvalifikasjonene for et yrke. Digitale porteføljer er svært nyttige for noen intervjuobjekter. De institusjonelle policymakerne kan absolutt lære mye av denne samlingen av ekspertkunnskap hvis de gjennomfører regelmessige undersøkelser ved hjelp av spørreskjemaer, intervjuer og

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fokusgrupper. De kan imidlertid få en enda bedre innsikt hvis de samler evidensen som noen metoder for å vurdere undervisning automatisk produserer, for eksempel læreres porteføljer av egen praksis og rapporter om fagfellevurdering mellom ulike lærere.

Til tross for de uunngåelige organisatoriske og pedagogiske utfordringene, konkluderer vi i denne håndboken med at den brå overgangen til nettbasert undervisning har skapt muligheter. I dag kan universiteter få en oversikt over disse nødtiltakene for å søke etter innovasjon, samt eksperimentere med alternative online kursdesign, levering og vurdering.

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Introduction

In the last three years, educational practices in Higher Education (HE) have gone through a substantial change as a response to the COVID-19 that spread as a global pandemic, curbing the process of school attendance since the virus could easily be infecting those on the close distance (Bartolic, 2022). The classroom environments were deemed to be places that could aggravate the outbreak, so the institutions had to redesign their course delivery as the virtual mode (Nanath, 2021). Due to the emergency transition to online teaching and online/hybrid learning and teaching practices². After the pandemic broke out, many HE institutions were caught un- or under-prepared to provide fully functioning online teaching (Croucher & Locke, 2020; Baker et al., 2022). Most academic and teaching staff were in urgent need of proper training as they had limited skills and understanding of how to plan and deliver their courses and interact with their students synchronously or asynchronously (Oliveira et al., 2021). Many HE students were not prepared to attend and participate in virtual classes and had to cope with the consequences of such transition with limited support from their institutions (Kee, 2021). The institutional leaders responsible for re-designing the educational system were also having difficulties in coordinating the complexities that emerged almost suddenly (Pucciarelli & Kaplan, 2021). To our best knowledge, there is no report that explores these issues in HE and provides a concise account on how leaders reacted to the unexpected systemic, pedagogical, and digital challenges experienced and reported across departments and faculties in their own universities.

² The handbook uses varieties of digitally enhanced teaching and learning such as blended and hybrid learning interchangeably because the interviewed leaders and teachers made reference to both of these practices with identical meaning.

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The handbook is an intellectual output of the BLEARN_AUTONOMY Erasmus+ Strategic partnership project, funded by the National Agency in Spain³ (<https://blearn-autonomy.eu/>; Project ref. 2020-1-ES01-KA203-082513). It surveys the experience of leaders and teachers, and discusses the specific implications for practice. The project gathered six universities based in France, Norway, Poland, Portugal, and Spain. The participants interviewed thirty-nine leaders and teachers in the six institutions, and then conducted an inductive analysis that found out the most relevant themes. The following sections present the intellectual background, the methodology and the findings of the analysis, as well as a reflection on the implications of these findings and a recommendation to follow certain grand guidelines for further developing blended and hybrid learning in higher education.

Background

A conceptual map for discussing institutional blended and hybrid learning policies in higher education

In this handbook we take stock of both long-term innovation and short-term responses to an emergency. Universities had been experimenting with blended learning well before 2020. Learning management systems (LMS) had been available for the previous twenty years, and massive online open courseware (MOOCs) initiatives became very popular in about 2010. However, the rapid adaptation to stay-at-home orders forced most teachers and students to use digital technologies for the whole of their work in the 2019-20 and 2020-21 academic years.

Today, several large-scale reports describe the experiences of students and teachers with hybrid and blended learning as well as on the ongoing, related changes in the

³ <http://sepie.es>

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organisation of universities. Although some pedagogical publications have carefully distinguished hybrid from blended learning, we will not delve into these distinctions. Both terms refer to enhancing the skills of teachers and the capacities of organisations to teach higher education students. We decided to look at the whole of pedagogical and organisational practices because, rather than specific methods and approaches, decision-makers seem to take this whole into account.

According to the [OECD \(2021\)](#) wide-ranging research based on a variety of sources, both students and teachers felt uneasy about emergency online teaching during the pandemic. A significant number of female teachers also reported an overload of professional and domestic work. Most institutions and professionals managed to implement alternative ways of teaching that maintained a minimum of academic quality. Although students had to shift to online interaction suddenly, the majority could follow their courses despite the isolation that self-distancing inevitably provoked. However, the costs, the challenges, and the suffering that many protagonists endured were quite significant too.

Between 2014 and 2020, two large surveys carried out by the European Universities Association (EUA) have detected that most European universities have managed to implement emergency online teaching, not least because many have developed an institutional strategy in the previous years, and about 75% had experience with blended learning. Teachers identified collaboration and professional development as crucial enablers, while blaming national regulation for being a barrier in some countries ([Gaebel et al, 2021](#)).

These recent developments qualify the previous research on the institutional adoption of blended learning. Years ago, this literature observed that a small group of pioneers were really making change, while many more higher education institutions started to think about it. Blended learning appeared to follow the well-known pattern whereby a small group ignites innovation at first, and afterwards many practitioners decide to adopt that

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innovation in a short period of time, which basically suggests that eventually everybody imitated what the pioneers had done ([Graham, Woodfield & Harrison, 2013](#)). This is no longer the case. If three quarters of European universities have already designed an institutional approach to blended learning, and almost all the students have dealt with virtual learning environments in a variety of ways, the examples of the pioneers can no longer be the main source of inspiration for the leaders and the teachers at European universities.

On the one hand, it is indispensable to bear in mind that the available evidence does not suggest that blended learning is significantly coupled with the social norms that constitute the institutional core of universities. These norms regulate professions and award professional credentials to individuals ([Meyer et al., 2007](#)). Currently, online teaching is not widespread, and many professions do not require new members to accredit digital skills. After using video conferences intensively for two academic years to cope with the abrupt shift to online teaching and distancing restrictions, teachers and students got back to face-to-face instruction and interaction, but most of them are still uncertain about the learning outcomes achieved from those extraordinary courses that did not follow the rules that are normally taken for granted in higher education institutions.

On the other hand, this evidence strongly suggests that policymakers, institutional leaders, and teachers have adopted blended learning practices, although the links between these practices at the different organisational levels remain contingent and complementary but in part contradictory, too. It is not plausible to assume now that universities are compact units that are reproducing the same practices across the board and that in each country all institutions reacted in the same way to the national regulations they were supposed to enact, which led to many idiosyncratic practices of management and pedagogy. It is indispensable to look inside the 'black box' of the recent

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organisational changes to make sense of the situation and determine the main lessons to take from such experiences.

In its early outbreak, the pandemic caused many dilemmas and uncertainty as to how higher education institutions could react and redesign the educational service, how online teaching was to be designed and sustained, how the exams could be re-planned and conducted, whether and how the teachers could be trained, and whether students were ready for online learning ([Jung, Horta, & Postiglione, 2021](#)). Equally importantly, it was also argued how online teaching could be cut down and partial, shift-based, in-class teaching could be commenced. These questions initiated clear arguments on the re-conceptualizations of blended/hybrid learning.

In its basic sense, blended and hybrid learning are defined as a pedagogical process of combining online and in-class instructional and interactional activities in a way to activate and promote student learning ([Boelens, Van Laer, De Wever, & Elen, 2015](#)). Such a combination allows students to invest more commitment and perseverance ([Ismail et al., 2018](#)) since it is more learning-oriented minimising teacher-led teaching activities. This change in the pedagogy of teaching and learning challenges students to have an adaptive mindset that helps them to learn through these combined approaches to teaching, course delivery, learning styles, and patterns of interaction ([Lockey et al., 2022](#); [Rapanta, Botturi, Goodyear, Guàrdia, & Koole, 2020](#)). Therefore, blended learning is closely associated with integration, flexibility, and learning in mixed mode, multi-mode, or hybrid mode ([Alcalá, et al., 2021](#)). These combined processes and designs transformed the ways in which to use virtual pedagogical structures for teaching, interaction, and assessment before, during, or after the online teaching ([Rapanta, et al., 2021](#)).

To achieve these blended/hybrid pedagogical purposes, there are online LMSs that have been used since the 2000s. However, only recently have blended learning and teaching become a popular modality in the design of education that was accelerated by the

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outbreak and spread of Covid-19 (Müller, Goh, Lim, & Gao, 2021; Nerantzi, 2020). To provide continued education as a quick response to global lockdowns in 2020 and 2021, schools, universities and other educational institutions relied on LMS and video conferencing software to substitute the close physical contact between students and teachers in classrooms and laboratories (Cahapay, 2020). While the length and stringency of the restrictions varied in different parts of the world due to its unpredictable spread and infection rates, everywhere these exceptional circumstances induced universities to make the instructional design of the courses partly online or blended by offering opportunities to participate in multiple modes (Iglesias-Pradas, Hernández-García, Chaparro-Peláez, & Prieto, 2021; Rapanta, Botturi, Goodyear, Guàrdia, & Koole, 2020).

It is then clear that such a shift in the approaches and processes of instructional designs of online teaching and learning have posed systemic educational challenges for many universities. In a short time, they had to come up with an institutional educational policy as to what video conferencing software they could buy and use, what kind of digital and pedagogical training they could provide for teachers and students, and how they could deploy new pedagogical models of online/hybrid/blended teaching. At the same time, they had to develop strategies to address the concerns that students had as to the effectiveness of blended approaches in use. Although neither teachers nor students felt they were well-equipped to cope with emergency online teaching, the forced urgent shift to a new mode of course delivery also brought with it pedagogical advantages including an intensive experimentation and exploration of flexible pedagogies, autonomous and self-regulated learning with teachers' scaffolding (Biwer, et al., 2021; Vanslambrouck et al., 2019) and learning through flexible course designs (Vanslambrouck et al., 2018). Interestingly, the shift also led to such a systemic benefit as higher student completion rates in many programs (Gelles, Lord, Hoople, Chen, & Mejia, 2020).

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When enacted throughout the pandemic restrictions, blended learning allowed for diverse pedagogical designs and learning tools through various feedback practices. In fact, flexible pedagogies can lead to student and teacher autonomy (Chiu, 2021; Rashid, & Yadav, 2020) in diverse disciplines in higher education (Bruggeman et al., 2021). Besides, the opportunity to provide multimodal feedback through prolonged online and face-to-face interaction promotes teachers' autonomy. Many teachers found colleagues who mentored them while they attempted to change their course designs despite their weak skills in this area (Rashid & Yadav, 2020).

A wide strand of research has already documented to what extent the abrupt shift to online teaching and learning in 2020 made institutions vulnerable due to the un- or under-preparedness to provide effective education (Dhawan, 2020). Consequently, they needed to adopt flexibility in the way HE institutions design their pedagogies. However, blended models imply autonomous teaching and learning and flexibility in instructional designs (Chiu, 2021), so teachers and students need to nurture and promote new skills including learning and teaching through hybrid/blended instructions (Lapitan Jr, et al., 2021). Blended learning poses challenges not only for those who design it but also for those who implement and learn through such a design.

The following sections will take stock of an unprecedented sequence of innovation in higher education institutions. Such innovation has been the outcome of gradual dissemination of pedagogical and technological ideas. Other recent innovations such as quality assurance, qualification frameworks, employability programs, international mobility of students, and teachers and pedagogical courses for HE teachers have also taken some years to spread. However, in 2020 almost any university across the world was compelled to provide online teaching to its students at a short notice, thus making previously unexpected decisions on the use of video conferencing software, the order of the courses, online examinations and digital communication between teachers and

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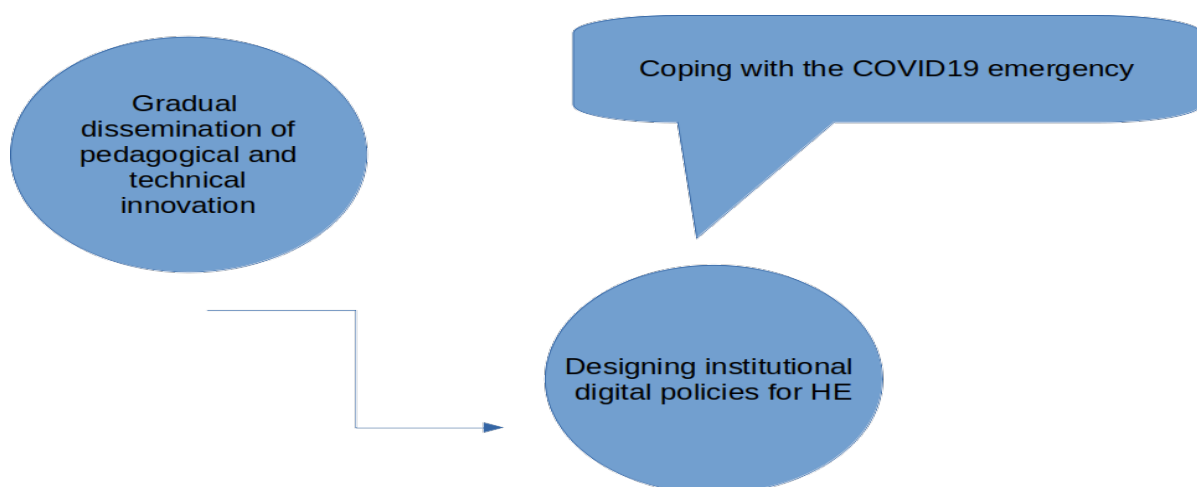
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students. Although most of the tools that facilitated these changes were already available, nobody had foreseen that they would be adopted at such a wide, global scale.

Figure 1 outlines this specific pattern by highlighting connections between similar and disparate phenomena. The ellipses indicate similarity between the gradual dissemination of innovations and the re-design of institutional policies since both processes have taken some years and have partially overlapped. The sinuous link indicates that the connection is not linear and straightforward everywhere. However, online teaching was a solution to tackling the emergency provoked by the lockdowns and the distancing restrictions during the COVID-19 global pandemic. Thus, the callout that portrays this reaction to the emergency contrasts with the ellipses that frame the concatenation that had been business as usual in other processes of innovation. At the time of writing this handbook in 2022, many leaders, professional consultants, and policymakers wonder whether universities have learnt from those digital pedagogical experiences. Besides multiple challenges and uncertainties, then many universities were capable of delivering minimally consistent courses without the face-to-face interaction that had been taken for granted until that moment.

Figure 1: An unprecedented sequence of innovation



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We describe what the leaders and the teachers of six European universities noticed regarding their institutional reaction a few months after the end of the exceptional circumstances. Drawing on a sample of interviews conducted in five countries, we suggest some relevant guidelines by pooling variegated experiences into a common grid of concepts. Our qualitative thematic insights illustrate the particularities of each idea, while the sections attempt to depict the main recommendations inductively. Besides the analysis, further sections explore some implications and outline a list of takeaways for improving the use of online teaching and hybrid/blended learning in higher education.

Methodology

This handbook reports on the digitalization of teaching during COVID in six European universities in order to prepare guidelines and suggest how institutional policies could be reshaped in line with hybrid/blended learning in higher education. The motive is the belief that the instructional and interactional experiences during COVID provided insights of how HE teachers can redesign their courses in different modalities for virtual and physical environments simultaneously. So, HE stakeholders can consider how to integrate these modalities into a future system and how the positive learning experiences are still useful after the lockdowns. The handbook is based on qualitative data about ideas that teachers and institutional leaders kept in mind when moving back to face-to-face teaching. Their self-reported, retrospective stories of what happened during the given period in their specific contexts informed a set of evidence-driven guidelines for ulterior policymaking with regard to hybrid and blended learning in higher education.

Context

The universities and academic staff whose experiences are involved in the handbook are part of an ERASMUS+ Strategic Partnership BLEARN AUTONOMY⁴. The universities in the

⁴ It is funded by Erasmus+ National Agency in Spain (SEPIE), <http://sepie.es>

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project collaborated to address the blended learning practices as strategic partners who aim to foster their pedagogical practices and contribute to the development of their academic staff in need of learning to teach in blended modes. All the participating universities experienced the transition to hybrid education and have a wealth of unique contextual grounded experiences. The variety in the geographical dispersion of the universities allowed for access to diverse practices and implementation of hybrid education, which was central to bringing together a variety of data to arrive at coherent arguments and results to support the statements in the guidelines.

Sample

The sample includes one university from a Nordic country, one from a Central- Eastern European country, one from a Central European country, and three from two Southern European countries. This geographical diversity underpins the validity of common trends in the sample of universities. Table 1 shows that the size of these institutions varied between 9300 and 35000 students, and that four of them participated in the European Universities program of the European Commission.

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Table 1

Sample of universities

Institutions	Number of students	Affiliation with European Universities
Autonomous University of Barcelona (UAB)	35000	ECIU Uni
Catholic University of Lyon (UCLy)	11000	Not affiliated
University of Minho (UM)	19700	ARQUS II
University of Stavanger (UiS)	12000	ECIU Uni
Univ. Vic- Central Univ. of Catalonia (UVic- UCC)	9300	Not affiliated
University of Warsaw (UW)	40000	4 EU+ Alliance

Thirty-nine respondents answered the interviews. Table 2 maps out their specialties and affiliations. Table 3 records that most of them were specialised in an academic field, mostly education, humanities, economics and social sciences, and science and technology. In Table 4 it is noticeable that 5-7 professionals accepted the interview in five universities, while 11 professionals were interviewed at UAB.

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Table 2

Role, specialty, and affiliation of the interviewees

Roles	Specialty	Affiliation
Head of Faculty	Social Sciences	UiS
Vicerector	Education	UiS
Teacher & Head of faculty	Biosciences	UiS
Teacher & Head of Department	Engineering	UiS
Educational Technology coordinator	Education	UiS
Vicerector	Education	UAB
Vicerector	Humanities	UAB
Teacher and former Vicerector	Economics	UAB
Teacher	Economics	UAB
Head of Bachelor Degree	Education	UAB
Head of Bachelor Degree	Education	UAB
Head of Bachelor Degree	Education	UAB
Head of Bachelor Degree	Education	UAB
Deputy Dean	Biosciences	UAB
Teacher & Head of Department	Engineering	UAB
Teacher	Engineering	UAB
Vicerector	Education	UM
Teacher	Humanities	UM
Teacher	Humanities	UM
Deputy Dean	Education	UM
Teacher	Humanities	UM
Educational Technology coordinator & Teacher	Humanities	UVic-UCC

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Teacher	Education	UVic-UCC
Teacher	Engineering	UVic-UCC
Teacher	Humanities	UVic-UCC
Teacher & Head of Bachelor's Degree	Education	UVic-UCC
Teacher & former Vicerector	Humanities	UVic-UCC
International relations Officer	Administration	UW
Educational Technology officer	Education	UW
Educational Technology officer & Teacher	Economics	UW
Teacher	Economics	UW
Teacher	Economics	UW
Teacher	Humanities	UW
Teacher	Humanities	UW
Rector's Senior Advisor	Administration	UCLy
Teacher	Humanities	UCLy
Teacher	Humanities	UCLy
Teacher	Humanities	UCLy
Teacher	Humanities	UCLy

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Table 3

Distribution of the interviewees between specialties

Speciality	Number of Interviewees
Education	12
Humanities	13
Economics & Social Sciences	7
Science and Technology	6
Administration	1
Total	39

Table 4

Distribution of the interviewees between institutions

Institutions	Number of Interviewees
UiS	5
UAB	11
UM	5
UVic-UCC	6
UW	7
UCLy	5
Total	39

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The interview guide

Kenan Dikilitas from University of Stavanger (UiS) and Xavier Rambla from Autonomous University of Barcelona (UAB) conducted online interviews with at least one leader of each institution. Altogether with Jordi Mogas (UAB), Ali Mostfa (UCLy), Magdalena Adamczyk and Ana Garrido (UW), Ana Maria Cea (UM) and Marcos Cánovas (UVic-UCC) BLEARN_AUTONOMY researchers interviewed other members of the faculty in Catalan, English, French, Portuguese, and Spanish.

The following schedule guided the questions, which they shared with all the interviewees well in advance. Rather than a fixed set of themes, the schedule aims at posing a focus that framed the whole conversation.

1. What is your role in the university?
2. What are the policies and strategies that your university has adapted in recent years regarding the development of virtual/online teaching and learning?
3. What have been the technological developments you have generated and implemented to facilitate learning and teaching in higher education? (e.g. virtual classrooms, social media, learner's portfolios, games and simulations, videoconferences)
4. How has professional development of the academic staff been affected by the increasing needs for digital tools?
5. If not addressed previously, what changes has Corona brought about?

A larger group of researchers interviewed teachers in all the universities. A core sample of these interviewees were faculty staff of the schools teaching management, education or engineering, on the one hand, and foreign- language teachers, on the other hands. If necessary, other staff were also contacted to collect data about further relevant developments during the lockdowns. In order to harmonise the questions and guarantee

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the coherence of the frame, Rambla asked to take into account a set of probing questions in these interviews.

1. What is your role in the university?
2. What are the policies and strategies that your university has adapted in recent years regarding the development of virtual/online teaching and learning?
 - Did you normally use online learning management systems and video conferencing software for teaching before the lockdowns?
 - What did you do in Spring 2020? How did teachers and students feel? Did any issue arise, particularly regarding assessment?
 - What did you do in the 2020-2021 academic year? How did you implement self-distancing rules in the classroom?
 - Is the institution planning to keep any of these strategies after the pandemic?
3. What have been the technological developments you have generated and implemented to facilitate learning and teaching in higher education? (e.g., virtual classrooms, social media, learner's portfolios, games and simulations, videoconferences)
 - Do you normally use Blackboard, Canvas, Moodle, or similar online systems?
 - Which tools of this system do you often use? (e.g., email, assignment delivery and feedback tools, online forum, mathematical exercises, grouping tools, wiki, workshop)
 - Do you sometimes address messages to your students through social media?
 - Did you face specific technological problems in the 2019-2020 and 2021-2022 academic years?

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- Have you ever used a learner's portfolio for assessing students? Are you using it now?
 - Have you applied any sort of games or simulations to any of your subjects?
 - Do you normally contact students through videoconferences for individual meetings where you give advice and support to them?
4. How has university teacher education been affected by the increasing needs for digital tools?
- Has your university set any regular system of teacher training? Does it respond to a general framework? Is a description of that framework publicly available?
 - Can schools or faculties ask for specific types of training?
 - Did the university provide training on digitally enhanced teaching and learning during the lockdowns?
5. If not addressed previously, what changes has Corona brought about?
- Did your university design any policy to institutionalise hybrid learning?

Data analysis

The transcriptions of the interviews were first coded in face-to-face discussions and later reviewed in Google Docs. This type of open coding unpacked the leaders' retrospective narrations of their experiences.

Further analysis revealed the potential codes and the emerging meanings that captured the intricacies of the digitalization of teaching and learning in higher education. Then the codes were tagged as categories and themes. The main themes provided insights into the experiences, challenges, opportunities, and forms of support during the pandemic period more than two years. The emerging issues include priorities, challenges, opportunities,

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institutional policies, pedagogical principles, and teachers' strategies to foster students' autonomy and learning.

The researchers double checked the reliability of the code grid. Thus, in February 2022 Dikilitas and Rambla presented a first version in a Transnational Project Meeting in Barcelona so that the partners gave feedback and reconsidered some of the codes and categories. Afterwards, an external researcher also tested the grid with a small group of interviews. Finally, Dikilitas and Rambla reviewed table 6 to validate the correspondence between the themes and sub-themes and a wide array of excerpts extracted from the interviews.

Opinion of participants in the multiplier events

Between June and October 2022, BLEARN_AUTONOMY organized an international multiplier event with experts from several countries, as well as five local multiplier events in Braga (Portugal), Lyon (France), Stavanger (Norway), Vic (Spain), and Warsaw (Poland). The participants were asked to comment on some guidelines through an online poll.

Table 5 summarises the results of that poll. In a nutshell, forty-five respondents basically agreed with the following guidelines:

- Universities need to identify the pedagogic challenges arising from abrupt digital transition
- Universities can take advantage of digital innovation that teachers have already implemented in their courses
- Universities must balance top-down and bottom-up approaches to the use of EdTech in higher education

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Table 5

Opinion of the participants in BLEARN_AUTONOMY multiplier events on the main recommendations for institutional leaders

n=45	Universities need to identify the pedagogic challenges arising from abrupt digital transition	Universities can take advantage of digital innovation that teachers have already implemented in their courses		Universities must balance top-down and bottom-up approaches to the use of EdTech in higher education
Average	4,09	4,09		4,11
Deviation	0,79	0,67		0,57
Coefficient of Variation	19,39	16,34		13,94

Findings:

The experience of leaders and teachers in six universities

This handbook draws on qualitative research to monitor the use of hybrid and blended learning during the emergency provoked by the COVID outbreak in 2020 and 2021 as well as to propose pedagogical guidelines for institutional leaders. In table 6, a set of themes, sub-themes, and excerpts outlines an overall perspective of the issues that were

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captured in the analysis. This section presents excerpts of the interviews in which the participants discussed these themes.

Table 6
Emerging themes and sub-themes from the analysis

Theme 1: Identifying challenges in abrupt digital transition
Sub-theme 1.1: Managing time for shifting abruptly to online teaching
Excerpts on
<ul style="list-style-type: none">● Accelerating rhythm of digitalization
<ul style="list-style-type: none">● Learning to teach through video conferences in a few days
<ul style="list-style-type: none">● Learning to teach online as quickly as the emergency required
Sub-theme 1.2: Teachers' resistance to live streaming
Excerpts on
<ul style="list-style-type: none">● Understanding teachers' concern about privacy
<ul style="list-style-type: none">● Overtasking with overwhelming additional responsibilities
Sub-theme 1.3: Lack of staff with relevant digital pedagogical knowledge
Excerpts on
<ul style="list-style-type: none">● Some departments lagged behind the other ones
<ul style="list-style-type: none">● A very interesting change is taking place
Sub-theme 1.4: Limited technological infrastructure
Excerpts on

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<ul style="list-style-type: none">• Need for institutional investment in technological infrastructure
<ul style="list-style-type: none">• The classrooms being properly equipped
<ul style="list-style-type: none">• Domain specific digital requirement for hybrid courses
<ul style="list-style-type: none">• Taking long-term costs into account
Sub-theme 1.5: Developing how-to knowledge
Excerpts on
<ul style="list-style-type: none">• Looking for digital alternatives collectively
<ul style="list-style-type: none">• Re-conceptualization of the training for the teaching staff

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Theme 2: Adopting approaches to facilitating the transition
Sub-theme 2.1: Balancing top-down and a bottom-up approaches
Excerpts on
<ul style="list-style-type: none">● Engaging in a deeper look into online teaching practices
<ul style="list-style-type: none">● Assessing digital teaching practices
<ul style="list-style-type: none">● A new mode of leading was needed
<ul style="list-style-type: none">● Cooperation with students in the digital redesign
Sub-theme 2.2: Establishing communities of teachers to enable knowledge flow
Excerpts on
<ul style="list-style-type: none">● Teachers collaborated spontaneously
<ul style="list-style-type: none">● A sort of learning community emerged immediately
<ul style="list-style-type: none">● Experts on digital education vindicated their work
<ul style="list-style-type: none">● Customising professional training needs
<ul style="list-style-type: none">● Discussing teaching over lunch
<ul style="list-style-type: none">● Bottom-up training
Sub-theme 2.3: Participating in national and international communities
Excerpts on
<ul style="list-style-type: none">● Connecting with other institutions to develop strategies
<ul style="list-style-type: none">● Collaboration with other institutions to develop training for academics
<ul style="list-style-type: none">● Gaining practical insight from overseas contexts

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Theme 3: Seizing Opportunities Emerging in Pedagogical Experiences
Sub-theme 3.1: Innovative materials and assessment
Excerpts on
<ul style="list-style-type: none">● Producing and archiving digital materials
<ul style="list-style-type: none">● Reflection as self-assessment of and for learning
<ul style="list-style-type: none">● Learning to test students online
Sub-theme 3.2: Innovative practices
Excerpts on
<ul style="list-style-type: none">● Innovation through teachers' professional development
<ul style="list-style-type: none">● Innovative process of learning through gaming
<ul style="list-style-type: none">● Teaching to use a statistical package online

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Theme 4: Formulating Pedagogical Principles
Sub-theme 4.1: Creativity in digital integration across disciplines
Excerpts on
<ul style="list-style-type: none">• Co-performance in online environments
<ul style="list-style-type: none">• Spontaneous flipped classrooms
<ul style="list-style-type: none">• Sub-theme 4.2: Being critical to create new ideas
Excerpts on
<ul style="list-style-type: none">• Teacher-initiated and implemented creative practices
<ul style="list-style-type: none">• Reviewing approaches to educate teachers
Sub-theme 4.3: Flexibility in design and delivery
Excerpts on
<ul style="list-style-type: none">• Finding out that online learning may be engaging too
<ul style="list-style-type: none">• Introducing student centered evaluation
<ul style="list-style-type: none">• Ensuring simplicity
<ul style="list-style-type: none">• Utilising social media for communication
<ul style="list-style-type: none">• Sub-theme 4.4 Empathetic pedagogy
Excerpts on
<ul style="list-style-type: none">• Students at the center
<ul style="list-style-type: none">• Support for success
<ul style="list-style-type: none">• Expressing the feeling provoked by overload of work

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Theme 5: Setting Institutional Priorities
<ul style="list-style-type: none">● Sub-theme 5.1: Maintaining the overall education system
Excerpts on
<ul style="list-style-type: none">● Innovation practices in labs
<ul style="list-style-type: none">● Making the education system work online
<ul style="list-style-type: none">● Coping with lockdown and travel restrictions
<ul style="list-style-type: none">● Improving skills to use blended teaching methods
<ul style="list-style-type: none">● Reflections on fully online emergency education
<ul style="list-style-type: none">● The movement back from online to face-to-face learning
<ul style="list-style-type: none">● Videoconferencing for their online teaching and learning
<ul style="list-style-type: none">● Sub-theme 5.2: Supporting students' adaptation
<ul style="list-style-type: none">● Students' customization to the digitally integrated practices
<ul style="list-style-type: none">● Polling the opinion of students
<ul style="list-style-type: none">● Scaling LMS up
<ul style="list-style-type: none">● The negative experience of "mirror classrooms"

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Theme 6: Teachers' strategies for students' online learning
<ul style="list-style-type: none">● Sub-theme: 6.1: Implementing portfolios
Excerpts on
<ul style="list-style-type: none">● Supporting learning through students' portfolio construction
<ul style="list-style-type: none">● Monitoring progress through portfolios
Sub-theme 6.2: Implementing hybrid lesson presentation
Excerpts on
<ul style="list-style-type: none">● Assessing the portfolios by interacting with students
<ul style="list-style-type: none">● Instant online feedback to inspire active learning
<ul style="list-style-type: none">● Hidden online student presence as a pedagogical concern for teachers
<ul style="list-style-type: none">● Practicality of portfolios under scrutiny
<ul style="list-style-type: none">● Adapting 'low fire and slow cooking' as a deeper learning process

Theme 1: Identifying challenges in abrupt digital transition

Going through an abrupt transition to online teaching led leaders to highlighting several challenges that they have experienced and observed in their institutions. In this category we introduce these challenges by narrowing them down in more expressive codes as shown in the excerpts to provide nuanced meanings for the challenges.

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Sub-theme 1.1: Managing time for shifting abruptly to online teaching

Since leaders, teachers, and students had to shift abruptly to the online mode of course delivery, they could neither develop in-depth planning nor systematically prepare the available digital systems and tools for use by the staff. Most leaders highlighted the time as a factor in various ways. It was also imposed top-down. The abruptness was implied by one leader at UiS mentioned the information flow with the top administrators who encouraged them to use more digital tools and engaged in learning to learn in digital environments

Excerpt: Accelerating rhythm of digitalization

I mean that there was a push from the central administration that we need to be more digital, you know? Can we make more digital classes? Can we use more digital tools like Canvas? Can we create more digital setups for the students? It wasn't a properly organised system; I mean kind of social talk from above. And then, of course, Covid came, and then we were forced to be virtual, which is digital, but it's not the same. It connects a little bit to web digitalization where the upper management wanted. But again, was it a need? And then, now this will be funny because they're telling us "Well, we need to go back to normal", so I'm trying to understand what does "back to normal" mean? (UiS)

The leader from UiS clearly highlighted the abruptness in the transition from one mode to another, expressing their confusion and implying competence contributed to by the shortage of time to organise all these digital setups and in-class teaching. Another leader from UAB emphasised that the time they had for learning to teach in a virtual mode was also limited but regardless of that, they experimented and learnt by doing by relating on their previous intermittent digital teaching experiences.

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Excerpt: Learning to teach through video conferences in a few days

Uh, because in 24 hours a community that involves roughly 40,000 people had to go online. Of course, we have our corporate digital environment (in our case through Microsoft and the platform Teams which we are currently using right now), but it was not commonly used before. We didn't know it. We had never used it before that day. In my case, I was a member of the board and a pedagogue, so I was directly involved in organising the first webinars on online teaching through Teams. There weren't many crucial concepts we had to launch in our community. Before Easter 2020 we had organised the first training on online teaching. (UAB)

Similarly, a leader from UCLy emphasised the limited time in which they had to provide online teaching with limited resources and inadequate skills for doing so.

Excerpt: Learning to teach online as quickly as the emergency required

The difficulty was that, instead of being given in an amphitheatre or in classrooms, the lessons were recorded with a camera. So, it's not the best fit. The pedagogy is not the most suitable, we cannot transpose face-to-face pedagogy into distance education. What we need today is to adapt the way teachers offer courses online so that it is well suited to the video-call format. Otherwise, the solution is not ideal for teachers, and for students⁵ (UCLy).

Sub-theme 1.2: Teachers' resistance to live streaming

The leaders also underscored the concerns of some about the practice of live streaming of their synchronous online teaching. These leaders not only had to provide a practical

⁵ La difficulté, c'était que les cours étaient déjà prêts et donc très simplement, au lieu de se faire en amphithéâtre ou dans des salles de cours, ça s'est fait à travers une caméra. Donc ce n'est pas le plus adapté. La pédagogie n'est pas la plus adaptée, on ne peut pas transposer une pédagogie présentielle en distanciel. Ce qu'on doit aujourd'hui, c'est adapter la manière dont les enseignants proposent des cours par vision de manière à ce que ça soit bien adapté au format de vidéo-call, etcetera. Parce que ce n'était pas l'idéal. Ce n'est pas idéal pour les enseignants, et pour les étudiants (UCLy).

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solution but also a justified legal basis. Many professionals were worried about the possible breach of their privacy when they are recorded and disseminated by students. One leader from UAB elaborated on what happened on the privacy issue:

Excerpt: Understanding teachers' concern about privacy

We asked teachers to record lectures and make them available. This was quite controversial. Some people felt that if they were recorded, they might not talk as freely as they would in a normal teaching situation. Some of our teachers said, as well, that much of the lecture itself is based on a dialogue with the students, which was lost in a digital interface. In their view, you lack a good dialogue there. Besides, if you are also recording it, students may put on their critical glasses and blame them for saying something wrong., So it's kind of... really... privacy as well. There's a lot of things there... (UAB)

Although it is understandable that privacy matters for all people, privacy in educational settings is closely related to the professional identity that teachers need to develop. Permanency of digital media when recorded and saved might scare the producer of it in case they are abused or commercialised. The temporality of the in-class courses makes face-to-face teaching a safe place for teaching where there might be no evidence to be abused in most cases. Therefore, leaders need to ensure cyber-attacks, abusive use of teachers' educational media, and ethical-legal issues for their teachers. A leader from UVic-UCC argued that the new demands beyond the capacity of the staff could have triggered resistance on the ground that some tasks, especially digital background preparation, is not stated in the job description.

Excerpt: Overtasking with overwhelming additional responsibilities

You know, they will say, well, I'm copying how I was taught by the best teachers that I've had. I'm not actually particularly interested in exploring all the different kinds of teaching I can do because I'm a specialist and I'm a researcher. And this is

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a job for other people. So, there can be a lot of resistance in that regard and it's difficult for the university leadership to ask teachers or to undertake new tasks because there may be a lot of resistance. They feel that they're being overwhelmed. I mean, that is the constant theme that we have with teachers at the moment. They're overwhelmed by new demands and new requirements (UVic-UCC).

During the lockdown due to the emergency of the circumstances many academics had to react and help the higher education system function as normal in the online environment overlooking many beyond-description roles and possibly overwhelming teaching and research related tasks.

Sub-theme 1.3: Lack of staff with relevant digital pedagogical knowledge

Although many of the universities have developed technological infrastructure and IT departments that provide technical support service for academic and administrative staff, the need for support for virtual or blended teaching has been a huge task for them since the support system also required a pedagogical focus for planning the course, designing the digital instructional model, delivering the lesson online or blended and evaluating/testing learning in online environments.

Excerpt: Some departments lagged behind the other ones

In our department people are very independent in what they do. They're self-going there. And I'm more there to support if someone asks me "I need help with this and this", and we go for it. It's very autonomous. That's why they also coped with that well and found strategies and solutions. In some other departments we heard that people were really stressed about the COVID, the new situation and that some employees were tired and kind of exhausted (UiS)

Another participant from UM underscored the uncertainty of the future rescaling of education and lack of clarity of the response to the changes that were taking place. The

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roles of teachers and students were undergoing change potentially for better since HE students appeared to develop pedagogical autonomy in the operationalization of their new roles of being online learner and autonomous learner.

Excerpt: A very interesting change is taking place

So, for me, the main challenge now is how to reinvent the role of the teacher as a very important and reliable source of knowledge, as someone that can help students, construct, acquire, develop knowledge (...) I'm not sure. So, I think this for me is the main challenge in post pandemic times, is how to bring back (or revise, or reassess, or reconfigure) the role of the higher education teacher, what is our purpose. A very interesting change is taking place. Perhaps because we didn't have this presence of technology before, now it has become more obvious. Perhaps. But I think some students understand their role. I think they should start by understanding, which is the student's role, and then they will understand which is the teacher's role. Because in my case sometimes they say it's not a traditional classroom where they remain like passively listening to the teachers' page. They have to make this process flipped. You'll be more active and proactive and autonomous and so they end understanding all the new roles (UM)

Sub-theme 1.4: Limited technological infrastructure

Another issue that posed challenges was the digital infrastructure that the institutions had when transitions to online teaching had to be made. A leader from UAB emphasized the lack of digital tools and resources as being an important need that were not met or fulfilled.

Excerpt: Need for institutional investment in technological infrastructure

So that was why the crisis strategy consisted first to reinforce the platform and all the hardware needed. I don't know the concept that they talk about blocks and... Well, some IT concepts which I don't manage well. But I was informed that it was

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a huge investment on reinforcing the platform. Second, some investment to provide laptops and a device to connect to the Internet for those invulnerable situations. Because there were students or even some professors without the technology available to follow the course online, we launched some calls and we supported more than 100 people delivering laptops and connections (UAB)

Similarly, not all classrooms in the campus were fully equipped with digital tools and resources. However, as a result of the reaction to the restrictions which the COVID lockdown brought up, the institutions struggled with the challenge to equip classrooms with the digital infrastructure that students needed in order to access lectures by means of either online or face-to-face channels.

Excerpt: The classrooms being properly equipped

Indeed, we have equipped our entire classrooms over the past two years. The devices that allow you to organise video calls, we have a camera, we have an internet connection that allows you to organise teaching from the classroom through screens, through videoconferences. So, it was a very important financial investment. Since the University is large, and the classrooms numerous, they were not all equipped. So, it was an investment. It took approximately years to equip all the rooms, but today, we have the capacity, regardless of the location of the university, to organise the courses online.⁶ (UCLy)

The limitations in the digital infrastructure led to unprecedented challenges in the way some disciplines conducted student practices, such as music, where high-quality sound

⁶ En effet, on a équipé ces deux dernières années l'intégralité de notre salle de cours. Les dispositifs qui permettent d'organiser des vidéo-calls, on a une caméra, on a une connexion internet qui permet d'organiser l'enseignement depuis la salle de cours à travers les écrans, à travers des vidéoconférences. Donc ça a été un investissement financier très important. Puisque l'Université est grande, et les salles de cours nombreuses, elles n'étaient pas toutes équipées. Donc ça a été un investissement. Il a fallu environ pour équiper l'ensemble des salles, mais aujourd'hui, on a la capacité, quel que soit le lieu de l'université, d'organiser les cours à distance (UCLy).

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and connectivity systems were required. A leader from UM highlighted this issue which he himself experienced as a music lecturer and emphasised that the online teaching and learning practices in the field of music revealed deeper and crucial needs for digital equipment.

Excerpt: Domain specific digital requirement for hybrid courses

Regarding the practical lessons, I'm talking about teaching the chamber music orchestra choir. This was a very big challenge for us, because we faced several problems. We attempted to use, for example, Zoom, but there were many problems such as internet connection, sound, visual difficulties, and the absence of physical demonstration by the teacher. These problems really impaired the lessons, not only one to one lesson, but also imagine, for example, playing in a sample or orchestra. Because of sound it was not possible to play together. I know that some teachers ask their students to record their parts of the ensemble, and then they would use an audio editing software to combine. What we felt during this experience was that we needed more advanced visual platforms for this type of lesson (UM).

Some teachers warned their departments that private video conferencing software could become expensive over time. If big technological companies realised that they could make a profit by charging higher education, that apparently easy solution would become an important cost. So, they tried to work with open source solutions and prepared some workshops on that for their colleagues. Thus, these teachers responded to both infrastructure challenges and a growing need for innovative alternatives.

Excerpt: Taking long-term costs into account

Probably Zoom and Google Meets will increase the payment for this solution for universities soon. For me it's very important to create these open source solutions like BigBlueButton. During the lockdown I used the mixture of Moodle and

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BigBlueButton, which was enough for me, but we also had to buy new software because it wasn't enough for my department. However, I started an online seminar on how to teach using these solutions. Teams, Zoom or Google Meets will become very costly for universities in the next two years. It's a typical story: there is no problem with technology, the problem is in economics. There is a special type of demand on networking in business and their willingness to pay is so high compared with the universities (UW).

Sub-theme 1.5: Developing how-to knowledge

During the lockdowns, teachers started to seek new practices that involved technology rather than being stuck with the idea that they lack knowledge of how-to. This indicates the self-initiated reactivity to the process of dealing with the new mode and channel of instruction involving online resources. A leader from UM indicated that teachers began to co-reflect and develop digitalization ideas.

Excerpt: Looking for digital alternatives collectively

So, we got together, and we thought about how we could support university pedagogies. It was clear that we had to go fully digital; therefore, we transformed our activities first so that all that we could do would be done digitally. Then, we tried to explore the digital possibilities and offered additional support, additional solutions, additional resources to people that we would not have thought about if we were still doing the same old face- to- face approach (UM)

Another leader from UCLy highlighted the fact that they needed to digitise the training for the staff as well. This could provide a loop input where the content and process of learning are aligned. The teachers were trained to learn how to integrate technology by using technology as a training mode, which might have provided them with a few situated practices to strengthen their learning process.

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Excerpt: Re-conceptualization of the training for the teaching staff

At this moment, we can hardly observe a movement of either massive adoption or implementation of an institutional strategy regarding hybrid learning. It is applied in local and disparate ways according to the units and the needs for diverse reasons, which may be pedagogical but also logistical. Some teams have undertaken digitalization through hybrid projects. Concerning our role as counsellors and pedagogic engineers, this situation made us think of shifting the model of our service from a shelve of tools towards co-construction. We must approach training to the units by individualising and tailoring our proposals to their needs (UCLy) ⁷

All in all, challenges were clearly identified through community based reflective sessions where teachers and students collaborated with leaders in multiple ways to authenticate the difficulties and the way of addressing them. It was seen that the challenges experienced and shared in the institutions created a space for everyone to contribute and be part of the process of creating new insights and solutions. Despite the resistance and lack of practical knowledge and time as well as infrastructure, teachers and students still sought alternative digital ways of overcoming their challenges by adopting 'learning-by-doing' and reflecting on the new ways of doing things with others in the online communities. The solidarity among educators and administrators was exemplary in that the issues were instantly handled, and solutions were suggested, which contributed to professional learning. So, the changes here constituted the basis for further professional learning rather than being a hindrance to the sustainability for the service of education.

⁷ On ne constate pas à l'heure actuelle un mouvement d' adoption massive ni la mise en œuvre d'une stratégie institutionnelle concernant l'apprentissage hybride. Cet apprentissage est plutôt utilisé de manière localisée et disparate en fonction des unités et des besoins pour des raisons diverses, qui peuvent être pédagogiques, mais qui peuvent être aussi logistiques. Quelques équipes ont initié un virage numérique qui se concrétise par des projets d'hybridation. Et concernant notre propre métier d' accompagnateur et d'ingénieur pédagogique, cela nous a fait réfléchir sur la nécessité de repenser les modalités d'accompagnement et de basculer le catalogue proposé, type formation sur étagère à des processus de coconstruction. Des formations au plus proche des unités en individualisant en comptabilisant plus les propositions de formation (UCLy).

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The challenges were rather seen to create opportunities for learning which we address in the rest of the themes below.

Theme 2: Adopting approaches to facilitating the transition

A second theme that emerged from the data was based on how the leaders described the transition process to adopting the new approaches in their institutions. The main message in their interviews was how they balanced the interaction with the teachers and students. At the end of the day, more of a flat hierarchy came to the fore, which helped them handle the emergency in a more democratic way.

Sub-theme 2.1: Balancing top-down and a bottom-up approaches

The abrupt shift to online/blended teaching in higher education led to some changes in the way the interaction and communication between the leaders and the teachers, since the bottom-up voices were needed to make macro decisions that involve all stakeholders. The exchange of information started to move from the bottom-up rather than flow down from the top to the practitioners. The leaders had to demystify digitalization so that the whole organisation integrated, led, and supported technological innovation including well-thought technological-pedagogical policies connected to the curriculum. It became clear that individually practiced and initiated innovations without a macro level plan were not sufficient. For example, one leader from UCLy described how they started to immerse themselves into the process of understanding the online teaching practices and reflect on how they can support their professors.

Excerpt: Engaging in a deeper look into online teaching practices

Today, we must be open to new forms of pedagogy that can develop with the evolution of tools, and especially through digital technology, not to remain in the background, to be proactive and to develop the use of new tools that allow distance education, for example digital, distance learning, but this also requires rethinking the way in which lessons can be given. So that's a process that is taking

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place, but which is quite long, because we have professors, teachers, who have been there for 20, 25, 30 years and therefore it requires support to help them evolve in their thinking, in their way of developing learning⁸. (UCLy)

This way of interaction with professors was not an issue before the shift to online teaching. Before that critical moment in 2020, many leaders were confident about the teaching and practices in the class environment. However, since teaching in online environments is relatively more complex, it involves different pedagogical and digital skills and understandings which require professors to change and learn to be able to deliver courses in the online environments. This new requirement led leaders to assessing the digital practices which needed to be heard and understood by the leaders.

Excerpt: Assessing digital teaching practices

Of course, we have had all types of situations and of course some people just posted their PowerPoints. And that was all. We were trying to identify these cases not to punish them, of course, but to teach them or to push them. Oh well, I'm more... It was quite interesting seeing a lot of professors interested in incorporating these technologies and these facilities to their profile. All the way the faculties did not react in the same way. Absolutely not. I can say that we have had troubles in all the faculties. Not a lot of them. But of course, there were faculties that were a little less innovative than others. (UAB)

The university leadership has also taken another form since everyone's opinions, expertise, and experiences were relevant to decision-making while managing the

⁸ Aujourd'hui, l'idée c'est d'être ouvert aux nouvelles formes de pédagogie qui peuvent se développer avec l'évolution des outils, et notamment à travers le numérique, de ne pas rester en retrait, d'être proactif et de développer l'usage des nouveaux outils qui permettent le distanciel, par exemple le digital, la formation à distance, mais ça nécessite aussi de repenser la manière dont les enseignements peuvent être dispensés. Donc ça, c'est un cheminement qui se fait, mais qui est assez long, parce que on a des professeurs, des enseignants, qui sont là depuis 20 ans, 25 ans, 30 ans et donc ça nécessite d'un accompagnement pour les aider à évoluer dans leur réflexion, dans leur manière de développer l'apprentissage (UCLy).

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circumstances that were born out of the lockdown. The decision makers needed to know more about what the teachers and students were experiencing in their engagement in online environments, and what potential challenges and problems they were having and how these could be addressed. A leader from UiS highlighted this insight by saying:

Excerpt: A new mode of leading was needed

So, from March 12th and all through that spring lots of decisions had to be made. We had to make new regulations, we had to follow the situation day by day, so it was -looking back at it- a difficult time. We had to establish new ways of leading the university in the pandemic situation. When we came to June, May-June, a lot of questions were asked, how the flow would be, and starting on the 20th, so we established a group looking into that, and with participants from the different faculties as well, and that was necessary in order to have people on board in the decision that we had to make. (UiS)

In this new style of leadership, the students took on a different role too since they were skilled in using digital resources as a life skill already. How they see learning online and how they could accommodate the change in their online engagement would provide authentic feedback and help leaders to build on the expectation and realities of how students learn. A leader from UM underscored their roles in the digital redesign.

Excerpt: Cooperation with students in the digital redesign

In terms of digitalization, for example, in many of our bulletins we have had a review, a small editing team, and students are in that team, so that they can contribute with ideas. All the decisions that are made with regard to teacher training on communication, social networking, and the digitalization of education are open to the participation of teachers (UM).

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Sub-theme 2.2: Establishing communities of teachers to enable knowledge flow

Another emerging form of collaboration between leaders and teachers was establishing a community that ensured knowledge flow for a better and instant meaningful communication in each university. Such a community would provide ample opportunity for critical reflection on the experiences and reveal challenges faced and opportunities captured for professional learning. Communities could also provide the symbolic space for addressing emerging issues and position teachers as problem posers and solvers. Leaders from UM highlighted the spontaneous accessible reflective collaboration and the emerging community that facilitated the handling of the situation with solidarity.

Excerpt: Teachers collaborated spontaneously

But that's the beauty of the community perspective, which is: If you have one spreading the word, then there's five or six -who essentially knows- and they can help. If you create this spirit... Yeah, I can tell you with an example. We started the team-based learning community with a training session that was run by four people, and it took two hours. The session is still running, but none of the original people is giving it, because, you know, people recycle, and so the topic stays. The idea develops because then you have, you know, more experience, then you have a colleague which comes from communication that was not in the beginning, and now he can, and she can bring the perspective of communication. And you replace people and people feel empowered to actually share. Therefore the burden is not as much as having a center doing everything or inviting one person to be the hero of that technology without noticing that there are a number of heroes that can actually take place and do it. (UM)

Excerpt: A sort of learning community emerged immediately

Between the start of the center and March 2020 we had engaged, approximately, if my memory does not betray me, 1200 participations in all the things that we were doing in these four years. Between March 2020 and February 2021, we

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engaged 3700 people. So, in one year we had a whole lot of new things coming up, but we did have more of... and we had different people coming up, so it's not the case that it was the same old people coming more often. We did have a number of things of people that were new to these things that popped up and stayed (UM).

It was also interesting that the leaders and teachers raised their voices to take part in the process of managing the circumstances along with the top-managers and suggested they assist with their expertise accumulated over years. Such agentic stance and self-innovativeness show the seriousness with which the issues can be handled.

Excerpt: Experts on digital education vindicated their work

During the first year we had to raise our voice, of course, to say that we are involved in this, and we have our responsibility. We are on the service side and we should get some emergency tasks going. So Covid happened, and my staff kind of shifted the focus because, as I told you, we are involved in many development projects, projects that were heavy long- term development projects. So, we kind of shifted the focus to be more on the emergency support focus (UiS)

Another leader then emphasised the professional development needs which needs to be tailor-made since university teachers might have reached a different level of digital literacy. This also might have contributed to the adequate support to the people who need it, which ensures equity meaning 'giving people what they actually need' rather than trying to be equal to everyone by giving them what they may not need to learn.

Excerpt: Customising professional training needs

We really need a network of radars or sensors that detect the current interests in the school. If teachers are talking about a theme, they easily decide to organize a training seminar on that theme. In my view, it is totally necessary in terms of

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efficiency. I am speaking as an engineer. We don't want webinars that nobody attends. That is nonsense (UAB)⁹

In some universities, pedagogical innovation is an output of informal chats. Teachers easily share concerns and initiatives where they are not exposed to explicit peer review and assessment. Although some of their practices certainly depend on theoretical assumptions about instructional design and students' learning, many issues and further experiments eventually emerge from the feelings and intuitions that a single session may trigger. So, informal encounters may become a source of inspiration and crucial enablers of an organisational culture of innovation.

Excerpt: Discussing teaching over lunch¹⁰

We discuss innovations quite informally as we tell one another about our courses and certain ideas pop up. In my view, teaching does not improve in very individualistic faculties in which nobody shares ideas. We often meet with our lunchbox in our small staff dining room, and we eventually decide the course of teaching there. Since all of us are a little bit crazy when anybody asks 'what if' most of us join the conversation and decide to try. Sharing ideas is very important (UAB)

Not only communities of teachers fostered badly needed professional development, but these bottom-up initiatives were also a reaction to anxiety and stress. A few years later,

⁹ Ens és imprescindible una xarxa de radars, una xarxa de sensors que detectin quin és l'interès que hi ha ara a l'escola. I la gent comença a parlar i a posar fil a l'agulla: anem a fer un webinar de formació docent sobre això. Jo crec que és una cosa absolutament necessària i fa que realment l'eficiència, jo que parlo molt en termes de l'enginyeria no, el que siguin coses útils. No faig un webinar que al final no ve ningú, perquè això no és útil. No, no té sentit (UAB).

¹⁰ Però en temes de docència jo crec que va sortint, va sortint, ens anem explicant i llavors ens anem enganxant i anem fent. Jo crec que aquí un factor molt important és compartir ho. Perquè quan hi ha una facultat que és tot molt individual, cadascú fa una cosa i no és comparteix, difícilment es pot millorar de manera que que participi molta gent. Aquí dins del departament, nosaltres tenim un menjador, no?, que que molts ens quedem a dinar. És un menjador dins del departament, no que anem amb la nostra carmanyola. Sí, doncs el rumb és que hi va sortir d'aquí dels dinars i si fem i si provem i si si clar, com que estem tots, jo crec que ja estem tots una mica sonat si algú diu: i si? Altres diuen vale: provem. I a més a més i es va creant llavors aquest fet de compartir les idees i de generar-les entre tots. Jo crec que és molt important (UAB).

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some of the teachers who felt worse in the Spring of 2020 had realised that hybrid/blended learning offered opportunities to teach languages better at the University of Warsaw.

Excerpt: Bottom-up training

When you don't master the tool, it becomes difficult to carry out your teaching practice in a normal way and, therefore, there was a lot of anxiety, a lot of despair on the part of teachers who had never completed courses with technologies. It was seen in the contact I had with the teachers, and I spoke with many of them. At that time, they started talking to me because they knew that I was already used to using new technologies. I used online platforms, so they saw in me, so to speak, a kind of help channel to try to make that transition. I even remember that at that time we ended up organising a training course at the Institute. I think that those who were more frustrated with the devices now feel a little more comfortable and are already starting back, because we are back to face-to-face teaching, they continue to use the technological part and, so to speak, they already look at their classes and they say: ah! but here I can use the platform to do this (UW¹¹).

Sub-theme 2.3: Participating in national and international communities

Leaders also underscored how they initiated their own learning process through multi memberships in communities where leaders discuss the transitions to online modes of teaching in their own institutions. The participation and engagement in discussion were

¹¹ Quando tu não dominas a ferramenta, torna-se difícil conseguir fazer a sua prática letiva de uma forma normal e, portanto, havia muita ansiedade, muito desespero por parte dos professores que nunca tinham completado cursos com as tecnologias. Via-se no contacto que eu tinha com os professores e falava com muitos deles. Nessa altura começaram a falar comigo porque sabiam que eu já estava habituado a usar as novas tecnologias, usava plataformas online, então viram em mim, por assim dizer, uma espécie de canal de ajuda para tentar fazer essa transição. Lembro me até que nessa altura acabámos por organizar no Instituto um curso de formação. Acho que aqueles que tinham mais frustração com os aparelhos agora já sentem um pouco mais confortáveis e já começam mesmo tendo voltado, porque já voltámos ao ensino presencial, continuam a usar a parte tecnológica e, por assim dizer, eles já olham para as suas aulas e dizem: ah! mas eu aqui posso usar a plataforma para fazer isto (UW).

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of significance for them to consolidate their decisions and provide new insights for their own teachers with an international perspective. For example, one leader from the UiS describes the benefits they get particularly regarding the legal issues.

Excerpt: Connecting with other institutions to develop strategies

Yes, I'm also part of a national group of heads of departments from different departments from all universities in Norway where they also have biological education. But it was interesting because we started these discussions in September. How are you dealing with this at the other universities as well? And we also got some good advice from the University of Oslo, those who are educating lawyers. They have this nice project (UiS)

Excerpt: Inter-institutional cooperation for launching training for academics

With the other partners of the European University, we prepared a range of activities which were planned to be blended. We had the first workshop in real life. It was a face-to-face event devoted to innovative pedagogy. Partnering with cities presented some ideas, some innovative approaches, different aspects of teaching, learning, and generally innovative. Then we plan to have short programs at each partner university in blended form, with an online component. So far, there have been several events, for example, we had some 22 short programs on academic writing in different areas (UW)

Such interinstitutional online collaboration in emergency periods seems to function well since the leader found supporting information that could be significant for their university and academic personnel. One leader from UAB also underscored the specific digital teaching practices in another country which exemplified the international reflection on the blended practices.

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Excerpt: Gaining practical insight from overseas contexts

Well, fortunately I'm in contact with many colleagues from other universities and I know perfectly that this is almost a past issue in some universities. So, we had a Fulbright professor here in our university during this last academic course and he told us that in Chicago, at his university, for example, they were currently using a blended approach to teaching for years, so he had less face- to- face sessions and more online sessions. Some of them recorded so no, not synchronous, but at the same time those face-to-face sessions were very highly evaluated by students because they were really where the difference came from. In the sense that in those patients they learn how to apply a lot of things. (UAB)

It seems that the leader from the UAB found out a few digital practices regarding how blended teaching and instruction can be implemented so that both synchronous class videorecording and asynchronous follow-up options foster students' engagement. It is also interesting that the leader focuses on the students' satisfaction with such an approach which seems to strengthen their beliefs in the use of blended learning.

As a reaction to the emergency, teachers and leaders engaged in active online interaction with colleagues. In some universities, true communities of teachers were consolidated that shared insights, recommendations, and practical solutions to improve the design of courses. The leaders also learnt from other institutions and started to think about their own policies from a new perspective. Instead of focusing exclusively on issues related to competition such as achieving higher scores in a ranking or receiving an excellent assessment from a quality agency, they realised that other institutions could also provide inspiring examples to handle the situation and develop consistent approaches to take advantage of the synergies between face-to-face and on-line teaching and learning practices.

Theme 3: Seizing Opportunities Emerging in Pedagogical Experiences

The leaders also underlined the pedagogical opportunities that teachers found to deliver their courses and programs in diverse faculties, such as video recording software as well as new assessment techniques and practices. Many felt like creating digital media that engaged their students in learning, thus creating a motivational supportive environment that could improve learning outcomes. Therefore, we argue that some new experiences also functioned as catalysts of sustainable pedagogical practices for developing higher education pedagogy by digitising the courses along with online instruction and interaction.

Sub-theme 3.1: Innovative digital materials and assessment

The abrupt shift to online teaching required teachers to create recordings and constitute a large archive of digital educational material. These recordings can be reused afterwards. A leader from UAB underscored how video excerpts from recordings were later used to recreate course materials, which is in fact a creative practice.

Excerpt: Redefining video recordings as part of course materials

Recording class sessions cannot substitute real lectures, but it is a very, very good complementary tool. Since I recorded the whole series of my presentations, now I can take pieces that supplement my current lectures with more examples and put it as additional material. I think it took a lot of effort, but we have to take advantage of everything we learned, right?¹² (UAB)

¹² Jo penso que la idea de gravar les sessions no és un substitutiu, però és una eina complementària molt, molt, molt bona en aquest sentit, de que et pot permetre explicacions o exemples. Perquè clar, quan veiem les classes es van gravar tots els exemples, tots els problemes que hi ha a classe, i llavors aquest any puc agafar trossos i complementar amb exemples d'anys anteriors. Posar-lo com a material addicional. Trobo que va requerir un gran esforç, però hem d'aprofitar tot el que vam aprendre, no? (UAB)

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The opportunity granted by the shift to full online teaching also involved teachers as digital media creators and course designers for the online environment. This allowed for creating resources with multimedia mainly including videos recorded and created from online lectures and seminars, or those created and shared asynchronously. This led to learning how to record videos and how to use them more efficiently to promote student learning.

Moving teaching to the online environments also created opportunities to use multiple and various ways of assessment. Basically, assessment of learning turned into assessment for learning where teachers had to give up traditional assessment practices which measure student learning through direct knowledge questions. The questions were rephrased to allow for continuous written reflection and assignments were submitted as reflective accounts for assessment, where such practices became a deeper learning opportunity described as assessment for learning. A leader from UM highlighted this transition:

Excerpt: Reflection as self-assessment of and for learning

I know that some teachers have to create and develop new teaching materials, and also to reflect upon the materials that have been done previously. If we wait for a second software for a music teacher, we ask them to write a text about it, and to evaluate that on a scale from one to 10 what they think about the material. On the other hand they are also trying to create some apps for music teaching, to use some software to create new teaching material. This is for example in the Master of Music Teaching. They also try to create this type of environment where we have a Blackboard, for example, where we have the materials for them and then we use them to write some notes and reflect the bottom with you (UM)

Hybrid/ blended learning challenges some assumptions on assessment. In 2020, the institutions in which on-site exams set the pattern had to design alternative solutions at

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the same time as all teachers were finding out how to carry on online. Even the teachers who had developed some expertise on blended learning previously had to try new assessment procedures at that time. Some of them realised that online assessment could complement their teaching practices.

Excerpt: Learning to test students online

Of course, the great challenge was with the assessment. I had to prepare for an open-book exam that was challenging for me. So, the questions have to be not just repeating the theory or just trying to ask what students memorise, but they have to apply the knowledge that you gained in some practical exercises and to avoid contact between them. I planned a long list of questions so that they didn't have time to contact each other if they wanted to finish the exam on time. So, the students had to write their own answers while half of them were just selecting the answer from the closed form, a kind of questionnaire or whatever you call it. So that's how I coped with the assessment (UW)

Sub-theme 3.2: Innovative practices

Other opportunities included innovating digital practices while teaching online. Faculty learning communities were used as a space for collective development based on understanding, reconceptualizing, and reflecting on online teaching. In the absence of training and developmental activities provided by the universities, the academic staff developed practices for professional development also with the help and support of the leaders. A leader from UM described how such communities were established and supported academics' professional development.

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Excerpt: Innovation through teachers' professional development

So, for example, we invested in the development of faculty learning communities. We now have three ongoing communities, we hope to generate two communities every year and OK, and so we have one community about gamification of teaching. We have a community about using audio response systems in teaching. And we have a community that is working on a specific process called team-based learning across disciplines. And so, these are people who get together regularly and produce ideas, exchange, and support. (UM)

Another example of innovation was made in coordination with students who created digital media and shared them with those who could not attend the onsite classes, which was reported by a leader from UAB.

Excerpt: Innovative process of learning through gaming

When I teach [telecommunication] networks, normally I ask students to exchange some envelopes between them. In order to understand how networks work, a group puts a chair in the center of the room, and we behave as play gamers. It is impossible to do this online. So, in early 2021 we selected a group of students who wanted to come to the campus physically. I went to the classroom, and we recorded everything. We produced a sort of live documentary via streaming. This activity worked very well. online students could ask questions that I heard as somebody was commenting on anything from the last row. They really participated (UAB ¹³)

¹³ Sóc professor de xarxes [de telecomunicacions] i normalment faig una activitat amb uns sobres que els alumnes han d'enviar se entre ells. Un grup ha d'agafar una cadira, posar-la a mitja classe i fer una mica de jocs de rol de play gamer, diguéssim, per entendre les necessitats de la xarxa. Això és impossible de fer a distància. Per aquestes activitats que requereixen això vam seleccionar un grup d'alumnes voluntaris que volien venir aquí físicament (...) Jo vaig anar la a l'aula i llavors ho vam gravar. La resta de gent s'ho mirava des de casa. Vam fer un documental diguéssim viu, no? Com un streaming no? Sí. I el so (...) I això, i la veritat és que va anar molt bé i la gent des de casa podia fer preguntes, les escoltàvem perfectament, i jo podia contestar com si hagués estat algú de la última fila que baixet hagués dit algo. Hi participaven, hi participaven, sí (UAB)

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Another leader from the same university (UAB) described how they used screen share as a technique to facilitate the teaching of statistics in a series of online sessions. That is to say, previously unacknowledged strategies challenged teachers' pedagogical competencies so much so that they developed new ways of teaching through technology.

Excerpt: Teaching to use a statistical package online

Students can install R (programming language for statistical computing) from home, and I'll tell you that normally we do the R lab with 80 undergraduates in the classroom. Since we don't have enough computer classrooms, they bring laptops and we do it together (..) Doing it online worked better because you were sharing. I told them: "now do this", "now let's see how you did it". By sharing screens, I could set general guidelines that everyone saw, and they learned from one another. In addition, when we are in the classroom, everyone asks many questions: "I don't get it, I don't get it either, etc." But not everyone can see it and maybe more than one person has the same problem. In online labs, it was helpful to put the problem that person had on the screen and fix it so that everyone could see. So, online R labs have certain advantages over face-to-face labs with 80 students in a classroom. They're like master lab sessions, aren't they? (UAB¹⁴)

¹⁴ R el poden fer servir instal·lat des de casa, i us diré que nosaltres fem unes sessions de laboratori aquí que bueno, no dividim els laboratoris en grups, el laboratori de R es fa amb tots els alumnes de primer a l'aula: com que no hi acabem a les aules informàtiques, llavors ho fem a classe, porten portàtils i ho fem a classe. Per tant són classes de laboratori amb 80 alumnes. Com podeu comprendre... Fer-ho online funcionava més bé perquè tu anaves compartint, els deia ara feu això, ara a veure com ho has fet ensenyam-ho compartint la pantalla, etc. Compartint pantalla jo podia donar indicacions i tothom ho veia, i aprenien un dels altres. A més això quan quan estàs a l'aula genera una mica de descontrol perquè tothom et crida "a mi no em surt, a mi tampoc, etc." però no tothom ho veia i potser hi havia més d'un que tenia el mateix problema. Llavors en posar allà el problema que tenia aquella persona a la pantalla i corregir-lo que tothom ho veia ajudava els altres. Per fer laboratoris de R vam tenir certs avantatges respecte al que estàvem fent que era horrorós de fer amb 80 alumnes a una aula presencial. Són com sessions de laboratori magistrals, eh?, perquè tampoc pots atendre el problema concret (UAB)

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Theme 4: Formulating Pedagogical Principles

All the experiences during the COVID-19 lockdown helped institutions to revisit and to formulate pedagogical principles that framed their vision and mission during the lockdown. The main ones included generating creative practical pedagogy, cultivating criticality in pedagogy, adding design- and process- related flexibility in education while addressing the challenges and redesigning the educational process of teaching and learning through technology. The experience and process of addressing the pedagogical challenges induced many teachers to adopt a mindset that was more sensitive to personal growth through a creative and critical stance. This perspective became increasingly different to a fixed mindset where teachers are more stable in how they react to the difficulties and newly required pedagogical instructional practices through technology.

Sub-theme 4.1: Creativity in digital integration across disciplines

The teachers were encouraged through the new needs and expectations of the students and the institutions to adopt openness and transparency while digitising their teaching. For example, some leaders highlighted the interdisciplinary creativity generated through digital integration. One from UM described this as a joint performance displayed in online environments in the field of music as an option that has not been tried before, which produced excitement.

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Excerpt: co-performance in online environments

This is one of the reasons why our department recently accepted to be part of an Erasmus project on music (...) The idea is that the participants will join a collective process of artistic creation, and they will collaborate through an advanced platform that allows musicians to play together (...). When I was studying in London I also participated in a senior project, and I have tried the software, and it really works, it's possible to read. I have played with a singer from Germany, and we could play together. And, of course, we are very excited with this project, and we are only starting very recently (UM).

In another discipline, the way the courses were designed due to the difference in time zone led the teacher to make use of the concept of flipped classroom to manage to help students access to education and the classes. This appears to be a creative practice since the existing boundaries and rules were expanded to include the geographically disadvantageous students. The leader from UCLy described the context for this change as follows:

Excerpt: Spontaneous flipped classrooms¹⁵

[When students were at home in diverse countries] Teachers had to deal with a variety of time zones. Although they were not interested in that previously, some colleagues spontaneously designed flipped classrooms so that students collaborated to prepare the class for either tomorrow or the day after tomorrow (UCLy)

¹⁵ Pour prolonger le cours et justement pallier les problèmes de fuseaux horaires dont je viens de parler, il est intéressant de noter aussi que certains collègues ont découvert le principe de la classe inversée un peu malgré eux. Puisque le travail en autonomie permettait en quelque sorte de préparer la classe virtuelle qui allait arriver le lendemain ou le ou le surlendemain (UCLy).

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Sub-theme 4.2: Being critical to create new ideas

Another of these emerging principles encouraged teachers to design courses and assessment systems that addressed a variety of students' needs. A leader from UW highlighted the initiative of the teachers to generate creative teaching and learning practices to which the new environment led them. The practices included blending the in-class activities or lab experimentation with follow-up home activities. Perhaps these teachers had never thought of such practices since there was no need for them.

Excerpt: teacher-initiated and implemented creative practices

So, some of the teachers went to the labs and recorded the experiments by themselves and just put them on the mobile platform. Some of them had previously prepared simulations, not all of them, but at the chemistry faculty there were some similar examples. Some of the teachers went very, very creative. I know one lady from the biology faculty who made students have their own lab at home. They tried to, you know, grow some samples at home. So, it was very creative and, you know, our teachers went all the way with that (UW).

A leader from UAB underscored the pedagogical experimentation the teachers engaged in by considering how digital tools and resources could complement in-class teaching.

Excerpt: Reviewing the approach to educate teachers¹⁶

Teachers are using the previous recordings. I am curious to see how we will elaborate the time schedules of large lectures and small-group seminars next year,

¹⁶ S'està aprofitant recursos fets. Jo tinc curiositat de veure com de cara al curs vinent com seran els programes? Aquest curs, per exemple, no hem pogut programar gran grup i seminaris el mateix dia amb un cronograma els del principi del semestre, per exemple, doncs, ara s'haurà de tornar a ajustar (...) A les assignatures dedicades a la competència digital es fan servir moltes eines, fins i tot per treballar amb estudiants nord-americans, però no podem comprar les llicències a nivell de graus i de facultat (...) La INP ha tingut un projecte d'innovació i fa projectes d'aula invertida. Miren com les eines digitals els podrien ajudar encara que ells estiguin presencials aquí (...) Hi ha gent que comparteixen coses i també interactuen online amb els estudiants (UAB).

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since this year we could not start the term with a complete schedule (...) In the subjects that explicitly teach digital skills, many tools are widely used (...) A colleague already ran a project to experiment with flipped classroom methods. They explore how digital tools are helpful for face-to-face courses (...) Other colleagues also share materials and interact with students online (UAB)

Sub-theme 4.3: Flexibility in design and delivery

These recent circumstances in higher education inspired new instructional designs that deployed diverse teaching and learning practices to involve online facilities in many ways. However, online tools integration also required changes in design and delivery. As was mentioned in the previous theme, teachers started to experiment new ways of teaching due either to the need to increase relevance or to accommodate instructional and interactional change in the way students can learn. This meant being flexible rather than describing teaching as a one-way or strictly framed process. The need for flipping classes so that students were able to participate from different time zones became a norm rather than an exception. For example, a leader from UiS highlighted the emerging pedagogical benefit of teaching online since it led to more engagement in learning.

Excerpt: Finding out that online learning may be engaging too

Some of them were somewhere in their houses. I think there was one working actually from the North Sea, maybe in a boat, I don't remember. Bring an exercise on the screen and I said 'Well', instead of moving towards the screen why you don't draw from your computers. And then they used it. It was kind of interesting because that person over there could draw as well, people didn't need to stand on the screen, they could be drawing. So, we were using the virtual world in a hybrid system. And that was quite interesting. Because the tools move so fast that you know they have some trouble. That people could do these things so that's an example where the virtual world is better (UiS)

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Another key pedagogical impact of online teaching was that the course design and delivery granted students more autonomy and agency for taking control of their learning. Teaching gradually became more student-centered in that teachers took students' needs and expectations into consideration when designing courses. A leader from UAB described how they communicated this with the teachers by asking them to innovate with methodologies which enable students to develop skills and competences through new evaluation practices.

Excerpt: Introducing student-centered evaluation

We had to develop a set of norms to ensure that the evaluation was going to consider continuous learning instead of totally final assessments. Because there's always a temptation in crisis periods to say OK, I'm going to deliver an exam and that will be all. Partly because it was not possible to deliver face-to-face exams and as far as we know new technology is not developed enough to provide a safe and secure environment to deliver the online exams with a reasonable amount of security. So, we had to develop a set of norms. And of course, trying to convince professors that they had to diversify methodologies so that students developed skills and competences (UAB)

While there is a growing need to integrate digital tools and resources, there is also a need for developing simple, functional, and digital solutions. One leader from UM underscored this point clearly and how they considered this principle in their new pedagogies.

Excerpt: Ensuring simplicity

It's a whole set of tools, so we had -let me check...- And the idea is "Tools that are simple to use by anyone". So, we took the approach of trying to say to people "If you have this problem, try this. It's simple, right? (UM)

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In relation to simplicity, another leader from the same institution also highlighted the use of social media to ease the communication without using sophisticated channels for everyone.

Excerpt: Utilising social media for communication

So, we were doing a number of things, but with the pandemic we clearly multiplied our activity and we decided to go also and act through a better website and through social media: Facebook and Twitter, which is still ongoing, became a very important part of the project. (UM)

So, creativity developed to enrich the learning process, provide pedagogical space for students to learn agentively and autonomously. Interestingly, the new circumstances imposed by the pandemic restrictions that were limiting the teachers to use digital resources also brought with it opportunities that liberated them and their students by trying out new ways of course delivery and new ways of learning.

Sub-theme 4.4 Empathetic pedagogy

An array of references to empathy strongly suggest that teachers appraised the importance of knowing more about students' views. Although official statements often declare that universities are sensitive to the perspective of students, the abrupt and sudden emergency that shook everyday life during the lockdowns led many teachers to appraise the strategic value of empathy for their professional activity. For instance, the leaders of two universities directly claimed that teachers had to be empathetic in their institutions. One of them included 'personalization' within the core pedagogic principles for all teachers.

Excerpt: Students at the center

There is a clear commitment of the governing bodies to change our current educational model, increasing flexibility and personalization of the academic curricula. Some of the aspects underlined in this new teaching model are

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meaningful learning, student-centered pedagogy, linking courses to the global and local environment, and fostering social engagement (UAB).

Another one considered that students needed tailored support so that they could acquire the appropriate skills. Not only learning but the ‘transformation of professions’ were the focus of this institution.

Excerpt: Support for success¹⁷

We are unanimously recognized for our follow-up and support schemes. Fortunately, we can help students to succeed and integrate into professions because we have more teachers per student (...) Let me tell you about an example from law studies. We have designed specific training on digital law so that they learn to cope with the effects of climate change as well as new environmental and digital standards. The idea is to support the development of skills and the transformation of professions. So, we welcome young people and teach these students to deal with the new regulatory requirements and the new professions that are in the making. It's a pedagogy both in substance and in form (UCLy).

But explicit statements are not the only sign of empathy. Some interviewees also discussed spontaneous reactions of students in online meetings that challenged the arrangements for emergency online meetings. Those reactions made them ‘vividly remember’ that teaching entails an interactive relation with students.

¹⁷ On a une forme de suivi et d'accompagnement des étudiants qui fait notre succès et qui est assez unanimement reconnu. On a la chance d'avoir davantage d'enseignants et de professeurs par étudiants, ce qui permet d'avoir un accompagnement individualisé. Qu'est-ce qu'ils ont dit ce qui me permet d'accompagner vers la réussite et vers l'insertion professionnelle des étudiants (...) Un exemple dans le domaine du droit : aujourd'hui, avec l'impact du changement climatique, les nouvelles normes qui sont liées à l'environnement, les nouvelles normes qui sont liées au digital, au fait que nous, on a créé des formations spécifiques au droit numérique. Par exemple, au droit environnemental. Et donc l'idée c'est de d'accompagner l'évolution des compétences et la transformation des métiers pour que les jeunes, les étudiants que nous accueillons, demain soient formés aux nouvelles exigences réglementaires et aux nouveaux métiers qui sont en train de se construire. Donc c'est une pédagogie dans le fond et dans la forme (UCLy).

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Excerpt: Expressing the feelings provoked by an overload of work

I vividly remember one student of music talking about the overload and how teachers were not thinking that it was just giving assignments, assignments, assignments, and nothing was happening, and it could not be like that. I vividly remember that. And that was a public, you know, public thing, so the guy had the courage to jump in and say that to everybody who was listening. I know that quite a number of colleagues of mine actually work with students, and actually work asking students, not just, you know, trying to decide for all of them, but I also know that some decide on their own, absolutely. (UM)

So, the leaders and the teachers at many universities reviewed their pedagogical principles to respond to the COVID19 emergency. Their ulterior reviews of that period often reiterate that teaching must be creative, critical, flexible, and empathetic. In addition, they also remind that the main pedagogical principles are not only components of an explicit, official corpus of knowledge about the mission of higher education but also instances of practical knowledge that permeate these organisations to different degrees of influence. We can conclude that some universities are particularly sensitive to these principles, but it is hard to generalise for all the teachers and for all the institutions.

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Theme 5: Setting Institutional Priorities

Universities endeavour to design a consistent set of priorities regarding blended learning. While years ago, most of them were basically looking for the appropriate WI-FI networks, over time most institutional leaders found out that they had to align pedagogical with technological goals. Although the accumulation of pedagogical experience certainly helped, in many cases, the challenges of abrupt transition to online teaching put this issue high on the agenda. The maintenance of the system, the affordances of technology, and the need to support students' adaptation are the new emerging themes related to the institutional priorities.

Sub-theme 5.1: Maintaining the overall education system

In the Spring of 2020, most academic leaders had to invent ways to conduct exams online because face-to-face meetings were not allowed. Unsurprisingly, that put pressure on teachers' and students' time schedules as well as on the capacity of the institutional IT systems. A leader from UiS exemplified this with reference to the use of labs.

Excerpt: Innovation practices in labs

And there were also challenges. We managed to keep the labs more or less open, so we avoided the worst-case scenario that we had to fully close the labs and not be able to have the students learning the practical skills in that. But at the same time, we thought, OK, we need to be better prepared than there are other ways to do things so (UiS)

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Another leader from the same institution highlighted the differences in exam-related priorities between the teachers and the administrators. Evaluation practices, however, as we introduced in theme 3, led teachers to seek innovative forms of assessment by developing reflective questions that encourage students to reflect on the question in a critical way rather than seeking fixed answers.

Excerpt: Making the education system work online

For some of our lectures continuing to teach digitally was not a problem. Other lecturers really wanted to be back in the classroom, face to face teaching, talking while supervising the students... A few of them were eager to continue to hybridise. But not too many, but most of them prefer the physical. So, it was the teaching aspect of it. In the spring of 2020 we were forced to put all exams as digital exams, but home exams, no exams at campus. There was no choice. But starting August the discussion began because a lot of units would rather have exams on campus, especially two faculties really wanted that. So, we slowly started to discuss the number of exams that we could still carry out on campus, but we also said that the major part of the exams had to be done as home exams, so digitally. That counts for both, the exams before Christmas of 2020 and spring of 2021 (UiS)

Many universities had to respond to two different consequences of the emergency. On the one hand, the students could not attend face-to-face sessions because they had to comply with stay-at-home orders and strict limitations to the capacity of rooms. However, in late 2020 and early 2021 these students could attend at least some face-to-face classes. On the other hand, international students were unable to reach many universities due to travel restrictions. So, the leaders and teachers of these institutions designed responses that set a new common ground to cater to the needs of both autochthonous and international students.

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Excerpt: Coping with lockdown and travel restrictions

Due to the pandemic and our international intake, we had to adapt to the development of online teaching and learning. In fact, we had not implemented true online teaching before (UCLy, prof 1)

Now we work with hybrid systems that allow us to alternate face-to-face and online classes. For instance, we are running a project with the French cluster of higher education institutions teaching French as a foreign language. Basically, that project draws on both types of classes (UCLy, prof 2)¹⁸

The emergency induced some teachers to draw on their expertise with distance courses in order to design the courses they had delivered on-site previously. This synergy certainly helped them to order documents and establish sequences of action, but they were unable to digitalize the whole set of teaching activities. At the end of the day, some interviewees concluded that it is impossible to educate many types of future professionals exclusively online. Not only do biologists and chemists need to work in a laboratory, but teachers also need to sit with children in a classroom. Similarly, doctors and nurses can only acquire crucial skills by meeting patients, and social workers lose relevant information unless they speak directly to citizens exposed to social exclusion.

Excerpt: reflections on fully online emergency education

In the Autumn term of the 2020-21 academic year everything was online here. So, I had to organise my subject accordingly. Fortunately, at the same time I was

¹⁸ Du fait de la pandémie et du public cible accueilli à l'UCL, c'est à dire, des étudiants internationaux, nous avons dû adapter notre politique et nos stratégies par rapport au développement de l'enseignement et de l'apprentissage en ligne. En effet, jusque-là nous n'avions pas mis en place réellement d'enseignement en ligne. (Prof 1 UCLy)

Nous travaillons également de plus en plus sur des systèmes hybrides qui permettrait justement d'alterner des séances en présentiel et en distanciel. Nous travaillons par exemple sur un projet avec le groupement professionnel à Dqf qui est le le groupement des centres universitaires français d'enseignement du français langue étrangère. Donc dans d'autres. C'était française et qui est basée sur l'hybridation de l'enseignement apprentissage avec l'alternance de séances présentielle et distancielles. (Prof 2 UCLy)

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engaged in designing an online master's degree to prepare secondary education teachers. Thus, my prior learning in this project helped me a lot to respond to the pandemic. But it was really challenging, because that very year my subject was included in the School and University project. Since the project foresaw that children and student teachers interacted in the same room, the adaptation was very hard. At the end of the day, I learnt a lot, but I keep thinking that some teaching activities must take place face-to-face. Definitely. (UVic-UCC)¹⁹

A large majority of teachers realised that face-to-face and online teaching were eventually complementary. They were familiar with digital learning management systems but had not thought systematically about them from a pedagogical point of view. After 2020, the solutions that they improvised in that moment have strengthened their own professional perspective of blended learning.

Excerpt: Improving skills to use blended teaching methods

Although I had used the online LMS before the COVID, I rather use chalk and blackboard in my classes. I sketch the outline of my presentation there and develop it on an erasable board. Sometimes I use a few Power-Point slides, but not many. I did not change this custom afterwards. I used Teams and Teams rooms but do not use them in face-to-face classes. I did not share recordings of my classes with students. I met them online for the whole time slot of the class but did not keep a recording. UAB is a face-to-face university in which meeting students is a

¹⁹ Recordo que el primer semestre del 2020-21 tot va ser virtual, així que vaig haver de reorganitzar l'assignatura que tenia tenint en compte la virtualitat. Per sort, això va coincidir amb el que et deia, amb tota la reflexió que havia fet arran del canvi de modalitat del màster de secundària (de presencial a semipresencial), i tot el que vaig aprendre per elaborar els materials per a la semipresencialitat em va servir per millorar el material de l'assignatura pensada per a una situació COVID. Haig de dir que també va ser complicat, perquè justament el curs 2020-21, el primer semestre, vaig fer una assignatura que forma part d'un projecte que és Escola i Universitat, amb el qual tenim relació amb els alumnes d'escoles, i això evidentment és presencial. Nosaltres, per raons COVID, no ho vam fer presencial i va ser interessant l'experiència de portar a terme un projecte pensat presencialment, on els nens de les escoles venen a la universitat i interaccionen amb els meus estudiants, i convertir-lo totalment en virtual. Va ser una experiència interessant que em va demostrar que hi ha coses que s'han de fer presencials (UVic-UCC)

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premise. Temporary solutions cannot change this premise in the long term (UAB)²⁰

The movement back to on-site teaching triggered further concern in 2021. Once everybody had experienced digital teaching, many teachers started to think about it from the benefit of hindsight. On the one hand, they realised that they needed further training to develop sound pedagogical approaches to digital education. On the other hand, although they understood that the governing bodies of many institutions were eager to have teachers and students back to normality, they questioned to what extent the new normality should take stock of some digital developments that have been tried during the lockdowns.

Excerpt: The movement back from online to face-to-face learning

And then, now this will be funny because they're telling us "Well, we need to go back to normal". So, I'm trying to understand what "back to normal" means. I should know the management will be naive on this because they want us to go back to physical. It's like suddenly pretending that we didn't learn anything about the Covid and the virtual role. It is still my answer there, I need to see how all the other elements come from the questions and I can fulfil later. There is some mix of mandate, needs, and what do they want, and what do we need (...) the department pushed, so we know how to do meetings in very few months. Teams and Zoom

²⁰ Jo bàsicament com a eina digital era pre covid, realment jo he utilitzat sempre el campus virtual, i a més et diré inclús a les aules jo soc de les que encara utilitza pissarra i tisa, i faig els esquemes a la pissarra i vaig estructurant allò que tu vas explicant a través de la pissarra manual, aquesta que hem d'esborrar. Sí, algun suport de PowerPoint, però mínim. A partir d'aquí, continuo igual. És a dir, durant la pandèmia he hagut d'utilitzar Teams, he utilitzat el Teams, he fet els cursos Teams, he utilitzat les sales Teams, i és una eina que sí que està allí, però per la docència del dia a dia, no he incorporat res. També et dic, quan havíem de fer la docència online, jo penjava els materials en Teams, però com si fossin inclús el campus virtual, jo no he fet gravacions de les sessions i les he penjat per estar a disposició d'aquestes classes, que les puguin tenir per gravar-les. No, la sessió era, sí, via Teams, però en l'horari que tocava presencialment, i no he fet gravacions d'aquestes sessions, considerant que això precisament la UAB al ser universitat presencial i és una de les premisses que tenim, això es temporal, i en aquesta temporalitat aquesta forma de donar la docència no ha de suplir després la presencialitat, en aquest sentit (UAB)

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developed very quickly, and we can do what we do now. But that doesn't mean that you are teaching properly, and you know how to do it. And then you know what is good and what is bad. So, there were no guidelines for that at all. (UiS)

The perspective of leaders on digital equipment was also changing at the time of the interviews. While almost all the leaders of our six universities were aware of the potential of learning management systems well before 2020, during the lockdowns they had realised the need and the capacity of video conferencing software. The most burning issue of the agenda was quickly purchasing affordable and useful digital tools that kept students and teachers in contact.

Excerpt: videoconferencing for their online teaching and learning

The health crisis, which started in March 2020, necessarily changed our way of thinking, our training. Therefore, from one day to the next we had to switch to distance courses since the French government decided to close the universities. So, all the teachers and all the students went home, but we had to continue to provide our lessons, so it was done as we are doing here. It was done online by videoconference, and therefore it was 100% online (UCLy) ²¹

Sub-theme 5.2: Supporting students' adaptation

Eventually, the new priorities required teachers and institutional leaders to look at students from a different point of view. Besides the normal pedagogical concerns, it became indispensable to think about students' interaction with digital technologies and acknowledge the setbacks of some of the emergency solutions. A key point is that students became accustomed to certain digital practices that they now saw as part of a

²¹ La crise, la crise sanitaire qui a démarré en 2020 à nécessairement modifier un peu notre façon de penser, nos formations, et donc d'un jour à le lendemain, on a dû passer au mois de mars 2020 l'intégralité de nos formations à distance. Puisque le gouvernement français au mois de mars a décidé de fermer les universités. Et donc tous les enseignants, tous les étudiants, sont rentrés chez eux, mais on a dû continuer à assurer nos cours, donc ça s'est fait comme on est en train de le faire ici. Ça s'est fait à distance par visioconférence, et donc c'était du 100% distanciel (UCLy)

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normal course. Many showed their satisfaction with online quizzes, and some of them asked professors to activate this tool for their subjects.

Excerpt: Students' customization to the digitally integrated practices

We do not force people to use our platform, of course. However, they like using the platform after the pandemic. Students got used to it so much that they cannot live without the platform in general. They're asking for quizzes, they are asking for repositories, for files, for additional info. So, it will stay even with the professors that are not very happy with using new technology or learning new technology. Of course, there is the problem with that. (UW)

Some universities decided that they needed to know the opinion of their students on the new developments. One vice rector even proposed they carried out their own focus groups to identify needs and challenges.

Excerpt: Polling the opinion of students

I've just had our plans for 2022. We have two campuses, and we are implementing two student hubs. It's something that we want to bring through. I just had a meeting with three students to ask them what they thought about the idea. We discussed how important it would be that they could organise focus groups that would call people into the idea and bring different perspectives. And they're part of that. Especially in my office, for nearly everything I call the students. (UM)

Many institutions noticed that teachers were learning more and more from digital tools. They had started using a learning management system as a repository of documentation. Then, they introduced quizzes and online assessment. The next step was even more pedagogical in that some teachers were developing their own ways to interact with students online.

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Excerpt: Scaling LMS up

Yeah, yeah, of course the most used activities are forums as you said. Sending assignments through the platform, of course. Quizzes are very popular for self-checking the final assessment, because during the pandemic we have proved that taking your final exam online is perfectly OK and can be right (...) Many people also use video conferencing tools like Google Meet. Some are experimenting with workshops and H5P tools. H5P tools make interactive content basically. So, it's not just PDF files, but also something that is more attractive visually. So, these are the main activities that the teachers use (UW).

However, everything did not yield the same results. Although many initiatives inspired further exploration and innovation, other ones became frustrating for the protagonists. For instance, 'mirror classrooms' provoked a perverse effect in a university in Spain. In 2020-2021 some faculties tried to adapt lectures to self-distancing rules by accepting half the students met the teacher in a room while the other half followed the class by streaming from the next room. The point is that sometimes students attended 'mirror classrooms' in unexpected ways that constrained rather than enlivened exchanges and feedback between teachers and students.²²

Excerpt: The negative experience of "mirror classrooms"

Nobody was satisfied with mirror classrooms, neither teachers nor students. Everybody was allocated in one of the two classrooms, and teachers taught one day in a different one so that all the students maintained a similar contact with them. I thought that, since many students did not attend, the other ones would

²² Jo crec que ningú va quedar content [amb les aules mirall], ni estudiants ni professors. [...] Tot i que estaven dividits i cadascú sabia a quina aula havia d'anar, i el professor un dia anava a una aula i l'altre dia a l'altra aula perquè així tinguéssin el mateix contacte... Jo pensava que poc a poc sense que ens n'adonem intentaràn venir a l'aula on està professor per poder seguir el professor... A mi em va passar al revés: o sigui, la majoria de gent s'anava a l'aula on no estava professor, perquè així entraven i sortien i marxaven quan volien. Va anar bastant malament (UAB)

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gradually shift to the teacher's room to follow the class better. However, they reacted the other way around since they preferred the room without the teacher so that they could get in and get out more easily (UAB).

The most intuitive priority during the lockdowns was maintaining lectures and assessment systems online. Guaranteeing that students could sit for their exams was one of the most obvious and worrying problems. All the higher education leaders had to make crucial and rapid decisions on digital infrastructures. Over time, they also realised that students were simultaneously elaborating their own opinion on hybrid/ blended learning. New customs emerged as more people engaged in video conferencing and used the main tools of LMS. However, leaders also became aware that digitalization was not a linear and simple process but a sequence of trial and error in which they had better drop some experiments that provoked unexpected, perverse consequences.

Theme 6: Teachers' strategies for students' online learning

The emergence of new priorities was intertwined with the configuration of new patterns of interaction between teachers and students. Although portfolios posit a nice example of how pedagogical relationships generated synergies with new types of social relationships, other instruments also illustrate this dual nature of blended learning. It is crucial to notice that the outcomes were satisfactory sometimes but required deep revisions of strategies on many other occasions. Portfolios require students to submit heterogeneous pieces of work that eventually provide evidence of their learning. Since some of these pieces may be quite creative, it is a stimulating activity for many students. But both teachers and students have to learn the technicalities patiently, and several rounds of trial and error are sometimes necessary.

Sub-theme: 6.1: Implementing portfolios

Portfolios pattern an exchange of students' inputs and teachers' feedback that easily leads to deeper forms of learning, not least because students become aware of their own

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understanding of self-regulation. Self-regulation of one's work, of external reviews and of objective challenges are crucial components of the meta-cognitive dimension of learning. For example, digital portfolios are instrumental to making students aware of their progress in learning a foreign language²³.

Excerpt: Supporting learning through students' portfolio construction

I use a learner portfolio regularly in a language class. The students produce a lot and I find it interesting to keep track of it. And by keeping track of the work done over a semester, students become aware of their progress. What I like in the portfolio is the idea of allowing students to stop and take a break regularly in their learning and to have a reflexivity in relation to their work in relation to their achievements. In short, to self-evaluate they need the opinion of the teacher (UCLy).

Teachers of education and health studies have widely used portfolios so that students bridge theoretical and practical knowledge in their practicum in schools and hospitals. This is a must in some universities that prepare future professionals for teaching. However, the workload is an undeniable downside of this instrument. If teachers cannot review students' work at the same pace as students submit it, the exchange is disrupted. Similarly, if teachers cater to many students at the same time, they become unable to provide sufficiently personalised feedback.

Excerpt: Monitoring progress through portfolios

Everybody who supervises the teaching practicum must ask student teachers to

²³ J'utilise un portfolio de l'apprenant régulièrement, je l'utilise comme levier d'apprentissage dans une classe de langue, les étudiants produisent beaucoup et je trouve intéressant de d'en garder une trace. Et en gardant une trace des travaux effectués sur un semestre, les étudiants prennent conscience de leurs progrès. Ce que j'aime bien dans le portfolio, c'est l'idée de permettre aux étudiants de s'arrêter de faire une pause régulièrement dans leur apprentissage et d'avoir une réflexivité par rapport à leur travail par rapport à leurs acquis. Bref, pour ils ont besoin du regard de l'enseignant (UCLy).

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elaborate a portfolio. Okay, so it is required. The means for that portfolio is up to the students, since they can choose whatever format they want to present it. Obviously, it's a digital one. It's not paper anymore, for many years now. Student teachers need to use it because it's a really important part of their training in a school. They have to monitor their own progress to become teachers. But if I was going to do it for all the subjects, I would not do anything else besides giving feedback to portfolios and I just can't do that. I don't have the time (UM)

Sub-theme 6.2: Implementing hybrid lesson presentation

Some universities attempted to strike a balance after the lockdowns. So, teachers kept meeting students online if they asked so. This option was also available for students who were participating in lectures and seminars with teachers on campus. As part of hybrid teaching the assessment practices also changed and they started to use portfolios and interact with students more and longer about the assessment criteria and the marking process. A leader from UCLy highlighted this.

Excerpt: Assessing the portfolios by interacting with students ²⁴

Since we went back to face-to-face teaching, I often meet students online in a video conference for individual discussions. However, if any of them wants a personal meeting, we can use any of the four time slots we have for meeting them. Students can call teachers for exchanges, discussions, or guidance although they attend a face-to-face course (UCLy).

²⁴ Comme nous sommes revenus à un enseignement principalement en présentiel, je n'ai pas l'habitude de contacter les étudiants par vidéoconférence pour des réunions individuelles. Mais par contre, si il le souhaite, nous pouvons effectivement faire une visio pour des conseils ou un soutien. Ceci est mis en place dans l'Institut sous la forme de tutorat sur 4 plages horaires, dans la semaine ou un enseignant est là, disponible pour que les étudiants viennent échanger, discuter, demander un conseil lorsque nous travaillons en visio, donc en distanciel (UCLy)

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Some teachers and students have already explored new ways to pattern a convenient sequence of feedback for some years. Thus, some plug-ins allow teachers to share mathematical exercises with students in a learning management system. Since the very system reports whether students' trials are right or wrong, some students often try them to prepare for their exams. Although teachers are not giving automatic feedback, the simple information on the correctness of the exercise has always been a sufficient incentive for certain students.²⁵

Excerpt: Instant online feedback to inspire active learning

The plug-in does not tell why their answer is wrong. We are working on it, but it is complicated. So far, it only informs if the answer is right or wrong, how many trials are available, and the mark. Each exercise also has an index of complexity. We ask them to try although they will not get a grade. They like it more than proper assignments because they are used to rapid responses. The rule is that they can only try twice to get a mark, but if they want, they can do it as many times as they wish. Once a student was so excited with an exercise that he tried thirty-five times (UAB)

On the other hand, video conferences not only became the main teaching instrument during the lockdown but also the focus of uncertainty and preoccupation. While the basic procedure of setting a call was the immediate urgency at the very beginning, the rules of behaviour during the call became an issue afterwards. The moments in which students activated their camera was a widespread reason for frustration, sometimes contention.

²⁵ No li dona explicació [de l'error]. Això sí, s'està treballant però això ja és més complicat. Però si, li diu sí està bé o malament, i pot dir quants intents té per equivocar-se o per provar fins que en certa. I ja li posa la nota, i ja està. Cada exercici té un índex de complexitat... Nosaltres estem posant alguns exercicis on la nota no compta, però perquè vagin provant, i està molt bé perquè jo crec que als estudiants els hi agrada, estan acostumats a que les coses siguin ràpides, això de fer una cosa i que li digui sobre la marxa si està bé o malament sembla que els hi agrada, més que fer un exercici entregat. Inclús nosaltres, per exemple, els posem que es poden fer fins a dos errors i si fan un tercer error ja no els hi compta, però poden continuar provant. Un cop un estudiant va provar fins a 35 vegades fins que va sortir bé, ja no els hi compta, però van continuar provant. Es va picar (UAB)

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Excerpt: Hidden online student presence as a pedagogical concern for teachers

I had one class online only, there were no people at the university, and it was incredibly bad, because there were only a couple of people with cameras on, and the assignment they had apart from the lectures in order to take the exam, or debates. So, they were divided into groups. Then I gave a position to each of the groups, and they were supposed to debate on. And that's very nice in class. Yeah, before. But online it was a disaster. I mean, no one turned on the camera, and only the ones who had handed in the three pages written arguments kind of participants. Horrible. (UiS)

Sometimes, hybrid and blended learning fails to foster students' autonomy if teachers cannot embed online work into a schedule of meaningful activities for students. Technicalities may overshadow pedagogy, particularly if students enrol at different times.

Excerpt: Practicality of portfolios under scrutiny

Portfolios work when students feel that they can be creative with them. If portfolios are designed as templates to store documents and other outputs that students must produce with their own word processor, as an album where they stick colored prints so that the teacher finds everything together at the end-, in my view they normally don't work. Then, we must devote so many resources, hours and headaches to the tool that at the end of the day we feel overwhelmed. This is a very bad outcome, because then students say: "Portfolio? That wicked thing we did once" I am very sorry that it happened in one of my courses, particularly this year 2021-2022 as a consequence of unforeseen problems. Preparing the template was a nightmare. In addition, some students enrolled at

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the faculty one month after the course had started. To me, it was a painful task to set the portfolio to them at that late moment (UVic-UCC)²⁶

Online instruments can also be misleading. When students rely on recorded classes too much, they may neglect crucial aspects of their learning. After the lockdowns, a professor of engineering used the resources of (face-to-face) gaming to remind his students of that risk. Although short videos summarise the contents of a course on telecommunication networks, students cannot master the key concepts that allow them to solve the equations correctly by simply watching the videos together as if the course was a film²⁷

Excerpt: Adapting 'Low fire and slow cooking' as a deeper learning process

In February I brought a big pot to the classroom, I put it on the table and started to introduce the subject. 'Look, the recipe to pass this subject is slow food. You can only cook it slowly. If you try to speed up like last year and see everything all in a row as a Netflix series in a few hours, if you want to cook it on high heat, it will look like a well-cooked food from outside, but it will be raw when you open it. Low fire and slow cooking are the only recipe to pass this subject' "(UAB)

²⁶ El que he entès és que el portafolis serveix quan hi ha una part creativa important de l'estudiant que pot justificar que allò es faci a través del portafolis. Si el portafolis està plantejat purament com una plantilla on dipositar textos i altres productes que jo he fet amb dinàmica pròpia, és com un àlbum on enganxo els cromos perquè al final els vegi el professor tots junts: això jo he trobat que no funciona. Perquè la quantitat de recursos, hores, maldecaps, que he hagut de dedicar a gestionar això és tan enorme, que és que hem acabat fastiguejats d'aquesta experiència del portafolis. Això és molt dolent, perquè l'estudiant quan sent la paraula Portafolis, diu "és aquella cosa tan complicada que un dia vam fer servir". I em sap molt de greu que m'hagi passat això, però m'ha passat justament aquest curs 2021-2022 per coses que jo no preveia. Per exemple, qüestions com preparar la plantilla i posar-la en el compte del portafolis dels estudiants: resulta que a primer curs, a la Facultat d'Empresa i Comunicació, entre que comença el curs i el vint d'octubre van arribant estudiants. Gestionar això m'ha sigut un calvari inimaginable (UVic-UCC).

²⁷ El primer dia de classe, ara aquest curs el el febrer vaig portar una olla noia grossa, la vaig posar i vaig començar a presentar l'assignatura: "mireu, per aprovar l'assignatura és una recepta que és slow food, s'ha de cuinar poc a poc, va fent xup xup perquè si intenteu accelerar com l'any passat i veure-ho com si fos un Netflix show, tot en unes poques hores, és a dir, si hi poseu el foc a tope de fora semblarà que està cuinat, però obriré i estarà cru. A foc lent és l'única recepta que hi ha possible per cuinar l'aprobat de xarxes és 3 mesos a foc lent xup xup xup sortirà perfecte (UAB).

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In a nutshell, higher education institutions not only adopt hybrid and blended learning instruments because leaders and teachers become aware of new challenges and expect to avail of emerging opportunities. Neither leaders' decisions to re-design the approach of their organisation nor teachers' decisions to re-design courses are the only drivers. The final outcomes hinge upon the equilibrium between students' expectations and teachers' strategies. Both parties may easily meet in courses using video recordings, online meetings, plug-ins of exercises or digital portfolios. But at the end of the day, the quality of teaching and learning depends on balances between students' inputs and teachers' feedback, the proposed learning activities and the self-regulation of students, and the sources of information and the pace of students' learning.

Implications

Pedagogical aspects: organisation and everyday practices

In higher education, it is not about having technical and technological facilities when it comes to deciding to continue to use digital tools to design and deliver courses, but about mindsets and teachers' and learners' reactions. Teachers and students may either meet exclusively or partially online, or they may meet simultaneously face-to-face and online. Many teachers are uncertain about their ability to design engaging online and physical activities that really foster joint collaborative learning. For the last few years, institutional policies have attempted to strike feasible and acceptable balances between face-to-face and online teaching and learning. Despite the significant pedagogical distinction between degrees of hybrid and blended learning, an important point is that decision-makers conceptualise digitally enhanced teaching and learning as a single issue.

According to the interviews conducted in six universities located in five different European countries in 2021 and 2022, the mainstream policies basically allow teachers to experiment and struggle with the design of across-the-board pedagogical principles and institutional approaches. Although skills and infrastructure have become important

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challenges, it is noticeable that many higher education institutions have proved capable of embedding hybrid and blended learning in their core teaching activities. Some leaders and teachers report that in their university a sort of community of practice has emerged, where they share insights, recommendations, and practical solutions with colleagues. An array of small but persisting innovations are observable in universities that are located in diverse countries. Many of these interviewees also claim that hybrid and blended teaching ought to be creative, critical, flexible, and empathetic. The institutional leaders are increasingly aware that frequent video conferences and expanding uses of LMS have crystallised in new routines in which both parties strengthen their skills at the same time as they face new problems. Normally, teachers and students use more applications of LMS. Nevertheless, despite the will to facilitate as much interaction as possible, students may prefer more comfortable combinations in which a teacher is not in front of them. Blended and hybrid learning become a component of the new normality when teachers' strategies meet certain expectations of students, but frictions and misunderstandings may also hinder fluid exchanges.

Our interviewees identified several easy applications of hybrid and blended learning in European universities. These are solutions that do not disrupt the normal activity of the organisations. The policies can acknowledge the potential that some of the most common exchanges between teachers and students take place online. The interviewees posited several telling examples. Thus, teachers and students can easily make appointments to meet online, students can deliver assignments through LMS, and teachers can distribute complementary materials for lectures through digital repositories. In addition, LMS facilitates peer review among students. Schools of science and technology can save money and foster engagement by asking students to use videos to prepare their work in a laboratory. Interestingly, audiovisual recordings are indispensable to listen to foreign languages, and digital portfolios can pattern sequences of feedback between teachers and students.

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While some commentators highlight the challenges and others praise the opportunities of massively using digital instruments for teaching and learning in higher education, we conclude that institutional policies can only be the outcome of subtle balances. All the stakeholders of these policies need to find some equilibrium between extremes such as challenges and opportunities, top-down and bottom-up approaches, creativity, and empathy, or promising and failing experiments. Crucial to the success of such policies is the capacity of organisations to articulate face-to-face with digital teaching rather than blurring the former within the latter. Thus, complementary articulations can foster engagement in learning, whilst supplementary articulations can facilitate students' access to higher education.

The governing bodies of universities often listen to the voices that are reluctant to maintain online interactions after the emergency, but most of them have decided to continue practices of blended instruction, engagement, assessment, and tutoring. So, the transition to hybrid or blended models of education is not without challenges. If face-to-face teaching becomes a norm that is not underpinned by critical reflection, universities risk to overlook the integration of virtual engagement as complementary (i.e., to prolong engagement in learning) and supplementary (i.e., to provide more resources for students to access). Teachers need to decide what they are blending and how they can do so in various aspects of the delivery and design of the courses they provide.

Complementary uses of digital tools could involve lab tasks that could be placed in the virtual environment, so that augmented reality helps them to repeat the task infinitely without risks of losing changes, spoiling raw materials or provoking accidents. Supplementary uses could involve helping students who failed or who missed deadlines to repeat their learning process online. Virtual teaching can supplement face-to-face teaching in a clear way. If teachers design an online learning system carefully, they are also facilitating a sort of universal design of learning. Students can learn about the general 'narrative' of the subject and know what is going on well in advance. They are not

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completely surprised when they start a lecture or a workshop. It is important to take all types of functional diversity into account.

Additionally, it is helpful for everybody to accommodate his/her own cognitive style to a given subject. Virtual meetings could be complementary for further discussion with the chances of content clarification, whereas they could also be used as supplementary when they exchange individual feedback or use the virtual hours as office hours to discuss individual or group issues.

Hybrid environments have already provided such options for about twenty years, but during COVID these practices became the required instructional and interactional spaces. The need to consider compassionate pedagogy is more explicit these days since teachers, students and institutions expect different modes of course delivery. So, we should negotiate the preferences and expectations of the stakeholders to a larger extent in the post- COVID period. While some teachers report they are comfortable with hybrid forms of students' presence, others report they can't handle the negative impacts. Similarly, while some students still prefer to be online and simply attend virtually, others report they need to be physically present to be able to learn better. More importantly, some institutions might be posing the face-to-face mode of delivery and presence thinking that hybrid environments and models can lead to discomfort and ineffective practices that can reduce satisfaction and commitment with learning. Therefore, we suggest stakeholders in HE need to adopt a compassionate approach to build a happy medium by critical negotiation and even contest each other to create working and learning environments for all. It is important to highlight that a compassionate approach does not entail that each teacher is aware of the factors that either strengthen the motivation or provoke distress to each student. An indispensable cornerstone of a feasible institutional policy probably lies in finding a satisfactory articulation of face-to-face and on-line instruments that helps everybody to feel more comfortable and more committed to learning.

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Sociological aspects: Breach of normality

Sociology has widely documented breaches in everyday life. We take for granted an array of routines that we can carry out without thinking. Pedagogy is deeply embedded in everyday life in this fashion since both teachers and students simply assume many routines when they start a course. Remarkably, the pandemic brought about a series of lockdowns and a variety of travel restrictions that severely challenged the everyday life of higher education. For about two academic years, neither teachers could assume they would meet a similar group of students as the previous year sitting in a room, nor could students expect to find a teacher who presented a course to them in a general introductory lecture. That experience was a very noticeable breach of many social practices that nobody had fully acknowledged before.

Moreover, online learning created a new pattern of normal routines that had not been obvious at all in advance. Not only teachers had to adapt their pedagogy, but they also had to look for an appropriate setting in their house and had to improvise ways of introducing a lecture that they had not anticipated before. For instance, they had to upload their students into video conferencing software, to write instructions in unprecedented ways, and had to admit that they were not seeing their audience as they had normally done. Students had to decide whether they switched their camera on, they raised their digital 'hand', they posted a question in the chat box at the same time as they could not immediately share their perception of a class with their mates.

Unsurprisingly, both parties started to think about pedagogy differently. Many questions popped up. Why are we doing this? Is this solution satisfactory? How do I feel about my teaching and learning routines? Am I doing it well enough? Is everybody as engaged as in a face-to-face session? Shall I listen to the teacher if I can watch the recording afterwards? Were my students really listening to me if they did not switch their camera on? And so on and so on. Certainly, routines are not destiny, and we change them quite a lot during our lives.

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At the time of writing this handbook by mid 2022, many teachers and students wonder if either the old everyday life will simply come back or something new is emerging. They also appraise to what extent past and present circumstances were desirable. Thus, blended and hybrid teaching and learning are in the making. Nobody can assume that he or she fully acknowledges what is going on. Nobody can either foresee how higher education will be in a few years' time. The concerns and dilemmas that institutional leaders and individual teachers expressed in the previous pages indicate to what extent they are elaborating on their experiences and exploring challenges and opportunities.

The general use of digital instruments also changed our way of undertaking tasks. Now teachers and students can easily attend a class from home. They can meet online to discuss any individual issue. Teachers may participate in continuous training while they walk to pick their children up from school. Many students can reasonably expect that they will not only receive the feedback of their teachers either through a brief chat at the end of the class or through previously appointed meetings in the few hours in which the teachers are available in their office. This specific aspect of the emerging everyday life clearly affects work conditions, rhythms of learning and perhaps cognitive styles. So far, we do not know. However, right now it is clear that higher education institutions must be aware of the inevitable changes that the everyday life of teachers and students are undergoing if they expect to plan for their future activity amid some forms of open discussion and deliberation.

Institutional leaders and teachers should be aware that people make sense of blended/hybrid learning with reference to an array of cultural frames. By acknowledging cultural diversity, they will easily discover the variegation of implications and meanings of the previously mentioned routines. For instance, studies of higher education policies have widely documented how governance, admission procedures, pedagogy, funding schemes, degrees and pathways greatly varied across countries, and sometimes across institutions.

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Policy-related aspects: framing an ongoing transition

A series of publications by non-academic organisations clearly indicate that many policy actors are discussing how to design national and institutional policies that take hybrid and blended learning into account (OECD, 2021; Gaebel et al, 2020). These actors are influential in deciding the priorities, the rationale, the implementation, and maybe the evaluation of different policies in this area.

Crucial to our argument is that blended learning policies inevitably transcend the conceptual map and the geographical scale of the most popular debates in the terrain of higher education policies. These debates are often concentrated on the pros and cons of national decisions about the governance and the curriculum of higher education. To design sound policies of hybrid and blended learning, it is indispensable that all stakeholders become aware that governance and curriculum are only specific components of higher education. Although a national government can write and pass a new act that regulates these aspects, it can hardly expand the use of blended learning by decree. Moreover, teachers and universities rather than governments are the main actors with significant influence on the expansion of blended learning. It is also interesting to observe that educational technology firms may create very useful innovations but may also disrupt the mainstream understanding of education, which is firmly anchored in schools and universities. Finally, international organisations and the European Union are increasingly involved in blended learning too.

In this vein, it is plausible to suggest that policies must not only regulate but also frame hybrid and blended learning. Framing entails disseminating an image of the concept that is meaningful for all the parties and highlights specific aspects that should be addressed. Regardless of its advantages and its downsides, it is relevant to observe that the European Commission has coined a frame with its concept of 'digital transition'. If it is successful, this concept is likely to be applied to the multifarious developments of hybrid and

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blended learning in higher education. If it is not, other frames will probably proliferate, but this symbolic importance of blended learning should not be overlooked.

Last but not least, the stakeholders of hybrid and blended learning policies affecting higher education have to acknowledge that teachers do not automatically comply with the expectations of policymakers. On the contrary, universities improve academic quality through work practices that take place both formally and informally in a complex set of organisational levels (Fossland & Tømte, 2020). Any policy that would assume a mechanical connection between legal stipulations and teaching practices would be flawed for this reason. The potential success of such policy would also be severely compromised.

Guidelines for institutional policies on blended learning in higher education

Identifying Challenges in Abrupt Digital Transition

Most leaders narrated how the transition challenged them to think differently, changed their previous educational practices, and inspired critical perspectives and prospective initiatives. There have always been challenges, which are to be interpreted as positive opportunities to strengthen and develop novel educational strategies. Challenges drive us forward to create new structures, new systems, and new practices.

In this vein, the available evidence indicates that everybody had better understand and identify the challenges in order to develop joint strategies for a form of education that increases teacher efficiency and students' learning. Although quality assurance systems normally posit explicit challenges to higher education institutions, it would not be realistic to assume that these lists are exhaustive. Challenges do not only come from such a well-ordered and visible context. Therefore, universities are in need to recognize, discuss, and re-contextualize such challenges on the basis of the negotiations with the stakeholders.

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In general, hybrid and blended learning requires higher education to elaborate on a deeper identification of the following criteria:

- ***inclusivity and diversity (be inclusive and use diversity)*** - everyone is involved with their own voices whether controversial or compromising; it is the diverse voices that can contribute to the understanding and solution of the holistically experiences multifaceted educational issues
- ***collectivity and connectedness (move collectively and stay connected)*** - every stakeholder moves forest together with their own views and understanding to contribute to the organisational learning process characterised as being challenging and sensitive
- ***reciprocity and mutuality (think reciprocally and support mutually)*** - everyone engages in a mutual dialogue and negotiations to synchronise the process of thinking in order to create a sense of belonging and jointness when dealing with the pedagogical, logistical, technical and technological issues
- ***representativeness and individuality (represent all and recognize individual voices)*** - everyone needs to be represented in the system either with their critical and creative views or voices from diverse perspectives that could strengthen the emerging solutions to the transition period
- ***adaptivity and transformation (be adaptive to transform the institution)*** - challenges require a process of co-adapting to the pressing systemic, pedagogical changes in an educational institution.

Adopting approaches to facilitating the transition

Institutional leaders and academics have already deployed some strategies to respond to the large set of challenges that hybrid and blended learning posits to universities. In 2020

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and 2021 one of the milestones of emergency digital teaching was the subtle articulation of top-down and bottom-up decision-making. Top-down responses were indispensable to choose video calling software when universities had to continue teaching online during the first wave of the COVID19 outbreak. Institutional decisions greatly helped to reduce costs, provide an official digital environment for students, train teachers to use the same tools, and guarantee some minimum data protection.

At the same time, teachers shared their expertise with colleagues in very open and flexible ways. In many universities, they even organised online workshops in which they learnt the basic technicalities and discussed some urgent pedagogical issues. Some institutions recognized the contribution of these workshops, and even encouraged teachers to build an encompassing training scheme that relied on the newly created collaboration groups between teachers. This experience strongly suggests a key takeaway for further institutional policies dealing with hybrid and blended learning. Although the purchase of technical equipment and the centralization of certain decisions may be necessary, it is also advisable that all leaders leave some leeway for bottom-up processes. Teachers have not only fixed some technical issues spontaneously but have also created some informal ways to solve further problems related to online interactions. In fact, bottom-up decision-making may also close a feedback loop that may be extremely helpful when new professional practices and students' adaptations are in the making.

In this vein, the findings of BLEARN_AUTONOMY also advise leaders to recognize the diversity of digital initiatives and personal theories of digitalization. Sometimes, sharing instructions and documents online is an important step forward because teachers and students become aware of the possibilities and the constraints of online communication. Sometimes, a group of teachers may undertake an initiative that massively draws on IT and simultaneously introduces new pedagogic principles. A balanced equilibrium between vertical and horizontal processes may greatly foster this diversity of ideas, thus

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strengthening the capacity of organisations to be resilient in front of crises and unexpected events.

The observation of very frequent exchanges between higher education institutional leaders at the national and the international levels also reminds of the convenience to establish and maintain rapport among stakeholders. These are not only teachers and students but also the leaders of other universities, and representatives of the civil society that sit in the top boards of many universities. In the same way as these contacts were helpful for many institutions at the time of an abrupt leap toward sudden digitalization, the channels between diverse stakeholders will also be important to develop fully fledged intellectual and practical models of hybrid and blended learning. Significant decisions such as requiring face-to-face interaction for several hours, allowing for some academic activities to take place in small groups connected online, or adopting already digitalized pedagogical methods (e.g., gaming, digital portfolios, MOOCs) will be grounded on stronger evidence and will be legitimised by a wider constituency if leaders maintain an open conversation with students, teachers, other institutions, and the civil society. Insomuch as the interviews have detected a wide feeling that academics and universities should take stock of their experience with emergency digital education, it becomes clear that a broad conversation may be instrumental to identify and prioritise the main lessons that have been learnt.

Remarkably, our interviews with a group of leaders and teachers working in six European universities in 2021 and 2022 have not recorded explicit reflections on quality assurance and hybrid and blended learning. Some respondents described the normal procedures in this area in their institutions, and a few noticed certain biases of the prevailing systems of quality assurance. But the emergency had compelled all of them to adapt their routines and their policies so suddenly that almost anybody had the time to figure out which explicit and tangible criteria could define the quality of hybrid and blended learning. Although this handbook cannot provide a shortcut that skips the inevitable debates about

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this theme, it can certainly suggest a rough draft of consistent approaches. In a nutshell, consistent approaches to the quality of hybrid and blended learning should be aligned with the 1.3. standard of the European Framework of Quality Assurance, which establishes that academic programs should encourage students “to take an active role in creating the learning process” (ENQA et al, 2055).

Seizing Opportunities Emerging in Pedagogical Experiences

Challenges may become opportunities if analyzed and identified clearly through democratic participation. Participation leads people to engage in open deliberation about the available alternatives, and remarkably, stretches the corpus of information on which the governing bodies may draw to make key decisions. In fact, the abovementioned bottom-up approaches to emergency online education became important sources of organisational learning through which universities found out that they could deliver much better online courses than they had ever envisioned. In 2020 teachers had to set alternative digital environments that could not substitute all the aspects of on-site teaching and learning, but they realised their own potential to improve an array of pedagogical activities online. Many investigated new ways to transcend too schematic dichotomies that had previously interpreted that on-site and online teaching were contradictory.

The very capacity of the institutions and their teachers to respond was also another opportunity. While the value of routine became noticeable for everybody who had to reset everything in a few weeks, the collective capacity to react raised awareness of many possibilities. Many higher education institutions realised that learning management systems were not only repositories, and that the functions of videoconferencing software were not reduced to organising meetings on special occasions. By engaging in open conversations on the pedagogical affordances of these digital tools, many professionals elaborated quite sophisticated accounts of the pros and cons of hybrid and blended learning.

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In order to keep teaching and learning and comply with physical- distance and stay-at-home orders, many teachers and students exchanged audio and video recordings. Certainly, these materials did not satisfactorily substitute many activities that had been conducted face- to- face for a long time. However, they learnt that they were able to apply these skills in fruitful ways within the frame of carefully designed hybrid and blended courses. Thus, many teachers thought that short videos might introduce a few concepts and illustrate certain procedures that were routinely carried out in laboratories. Many students also saw that they could wrap up many ideas by means of audiovisual materials.

Emergency online education also inspired innovative assessment and teaching practices. In the spring of 2020, many students sat for online exams from their homes. This is not an appropriate method to assess learning in all the subjects and disciplines, but the flexibility with which everybody managed to change assessment in a few months clearly sent the message that other taken-for-granted methods were not necessarily the best ones. Assessment systems were somehow defrozen. A few years later, many interviewees were very curious about the pedagogical reflection on this issue that was ongoing in their university.

Formulating Pedagogical Principles

The university pedagogy was transformed to meet the needs that arose during the lockdowns. Most universities identified key pedagogical principles for themselves as to how they can design online teaching and assessment where students are not available in a physical environment but in a virtual setting as they were taught. The teachers explored modes of online teaching and experimented with specific engagement strategies with or without support from the institutions. Most teachers from multiple disciplines attempted to generate innovation with the way they were presenting knowledge in virtual settings. When the instructional design principles and practices shifted to the online environment, the teachers also thought about diverse and flexible assessment and evaluations models

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where students can work more flexibly to submit their mid-term and final exam, which allowed for teachers to explore different modes of assessment practices as an alternative to in-class written exam under the control of proctors. The evaluation process included more of the projects and portfolio assessment rather than one-shot exam sessions. From this perspective, the emergency online teaching and evaluation practices provide an opportunity to test non-traditional alternative ways of teaching and assessing student learning. The teachers interviewed by the BLEARN_AUTONOMY project had certainly reflected on these practices and noticed weaknesses and strengths not only for themselves but also for their students. Some of these practices created irreversible learning experiences which could help them develop in their current and future practices. What this suggests is that institutions further support the academic staff by providing resources and space to promote such practices and ensure sustainability to strengthen the emerging pedagogical principles as institutions. They also need to develop new schemes for professional development that encourage teachers to make use of their experiences of online teaching during the lockdown and reuse their materials and resources that could further enrich their instructional designs.

In brief, the analysis of the interviews highlighted a set of helpful pedagogical principles for higher education institutions to adopt blended and hybrid learning. Among these principles, the following guidelines are particularly important:

- Creativity in digital integration across disciplines
- Being critical to create new ideas
- Flexibility in design and delivery
- Empathetic pedagogy

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Setting Institutional Priorities

The institutions that participated in this project also highlighted several priorities for themselves, which indicated the idiosyncratic strategies enacted in different universities. This is not surprising since each university has different teacher and student profiles who conceptualised online teaching practices including instruction, interaction, feedback, and evaluation in quite different perspectives. All universities through the prioritisation performed their institutional identities and learnt how to handle unexpected circumstances that curbed the swift flow of education and adopted a more dynamic and adaptive system in order to enable sustainability, continuity and reactivity. The logistical, educational, and professional challenges forced them to reconsider their systemic pedagogical practices that had not been under scrutiny for years until the system was subject to unforeseen interferences due to the lockdowns. Unpreparedness and lack of available training for university teachers led everyone to find their own way, thus discovering new paths for learning. These reactions not only caused inconsistencies but also liberated teachers to learn and understand new pedagogies that may be useful in the future.

In general, many leaders understood that the policies that tackled the effects of the COVID19 emergency could also open new opportunities for the digitalization of higher education institutions. Teachers realised that any previous training in online education equipped them with skills that were easily transferable to online emergency courses but perhaps to ordinary face-to-face courses too. During the lockdowns, leaders and teachers had learnt much about the institutional capacity of their university to maintain the overall education system under exceptional circumstances. A few years afterwards, they can take stock of all the policies they had implemented to respond to that shock and identify the lasting potential of certain technological transformations. Now they can discuss the key criteria that the institution must consider when buying software adapted to the needs of teaching.

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During the emergency, they also became capable of distinguishing why some innovations were working or were not, depending on the impact of those innovations on the interaction between students and teachers. Finally, they learnt about students' adaptation and looked for relevant evidence systematically. Leaders and teachers concluded that grades should not be the almost unique theme in the agenda of discussion with students. Other telling themes were uses of digital technology, assessment systems, forms of communication, and conceptual maps.

Teachers' strategies for students' online learning

Eventually, the outcome of digital innovations in teaching and learning in higher education will depend on social interactions between teachers and students. Sooner or later, most teachers will have developed their own strategy of hybrid or blended learning. Some widely known learning management systems can certainly ease the emerging tasks of coordinating online repositories, instructions, and assessment. However, students and teachers will not get the most out these instruments if the expectations of the former do not meet the strategies of the latter in aspects such as the rules of online courtesy, the best functional channels for communicating task instructions, the timing of academic feedback on students' assignments, and the contribution of digital exchanges in workshops, forum, games, portfolios and other environments to the learning outcomes and the key qualifications of a profession. A significant group of interviewees considered that digital portfolios were particularly instrumental in improving blended and hybrid learning.

How can universities manage such a diverse corpus of expert knowledge? Certainly, they can conduct regular surveys by means of questionnaires, interviews, and focus groups. If the samples are big enough and key open questions reach saturation points in which the respondents reiterate similar opinions, these techniques provide reliable information. However, this kind of research is time-consuming and costly.

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The findings of BLEARN_AUTONOMY suggest other complementary ways to pool evidence and knowledge about the ongoing interactions of students and teachers in courses that draw on face-to-face and online communication simultaneously. On the one hand, the reaction to the lockdowns did not only require individual adaptation but also the building of certain communities of practice at various levels of organisation. Teachers with analogous concerns met at the levels of programs, faculties, and even whole universities. On the other hand, the interviews have revealed that many teachers kept thinking about the contribution of emergency education to mainstream teaching activity even after face-to-face lessons were resumed in the 2021-2022 academic year. The return to normalcy did not delete some positive memories of the exceptional period of remote digital teaching during the lockdowns.

These observations may inspire institutional leaders to design qualitative modes of assessing teaching that eventually invite the faculty staff to share their concerns and their ideas. For example, many universities require teachers to report on their courses at some points of their career, often by collecting portfolios including pieces of evidence such as lessons, exercises, and measures of students' satisfaction. Interestingly, the same tools of hybrid and blended learning can be instrumental to improving these assessment exercises, and more importantly, to pool individual information to map out and discuss the advances and shortcomings of bachelor's and master's programs.

Finally, in the same way as teachers spontaneously created communities of support in certain institutions, it would be wise to explore the potential of peer-to-peer support for assessing the work of teachers in higher education. Peer-reviews can easily take qualitative details into account. Like teachers' portfolios, these individual exercises may easily feed larger reports that account for whole programs, thus improving the information that universities use to assure academic quality.

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