

Blending Your Education: Lessons Learned During COVID

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Introduction

This article is a concise analysis of the current COVID situation taking into account the needs of teaching staff and support staff in an emergency situation (IO1) and conditions for change management (IO6) to the design and develop blended education. TU Delft is partner of the EU project '[DigiTel Pro](#)' in collaboration with DCU, KU Leuven, UOC, and EADTU. This is an analysis (a) completing the literature review from 2018 on and (b) refocusing the conclusions on the COVID 19 needs as the DigiTel Pro partners have already made a comprehensive analysis for the EMBED project.

Best Practices for Blended Learning during COVID times are still emerging. It is unclear if everyone truly uses the same definition for blended and hybrid teaching within the literature produced during COVID times because not all authors provide a definition in their articles. Some of the authors who published in 2020 and 2021 are completely new to online teaching. Although online education has been around since at least 2003, it is surprising to see authors mention that distance learning is still in developmental stages in 2021. Distance learning will continue to develop, however distance learning is well established as an educational mode with various formats such as online, blended, hybrid, and virtual exchange. Perhaps new during COVID times was that all courses had to face distance learning and prior to COVID, some educators could avoid online formats entirely.

The original plan pre-COVID for implementing Blended Learning throughout an entire campus was realized in the document: Research report on state of the art in blended learning and innovation (Goeman, Poelmans, & Van Rompaey, 2018), found here: <https://embed.eadtu.eu/results>. This article expands on that Research report by explaining the COVID scenarios and what emerged as the secondary or emergency plan, as well as best practices noted by instructors for education during rapid changes for COVID restrictions.

Clarifying terms

There is a commonality between Hybrid and Blended learning during and post COVID. Previously Blended and Hybrid Learning were interchangeable terms for the same course format which was a mix of online and on-campus course formats. Some have defined what percent of the course must be online in order to be considered hybrid or blended. That percent varied by location and sometimes by institution. For example, in the past in the USA 30-79% of the course must be blended in order to gain the term 'Hybrid' or 'Blended' instead of using the term 'on-campus' ([Allen & Seaman, 2010](#)).

Previous research (Goeman, Poelmans, & Van Rompaey, 2018) defined common terms in Blended Learning to be:

- *Blended Learning* is learning as a result of a deliberate, integrated combination of online and face-to-face learning activities.
- *Blended Teaching* is designing and facilitating blended learning activities.
- *Blended Education* is the formal context of blended learning that is determined by policies and conditions with regard to the organization and support of blended learning.

During and post COVID times, Hybrid is being redefined with a similar description more closely aligned with Virtual Exchange programmes in that the students within the same registration may be in different locations throughout the globe, but they interact in the same asynchronous space and typically have an online synchronous meeting. Virtual Exchanges (VE) involve a course in one country connecting with another course in another country, although both groups of students can register for the same course in order to have a virtual exchange in the same space. VE is not necessarily a course format on its own. It utilizes an online, blended, or hybrid course format between universities or colleges. The terms blended, hybrid, or online are utilized when the course resides in one institute. There have been blended models in VE, but with the COVID regulations of travel, there has been limited if any VE depending on the country offering education and the home country of the student. The TU Delft (Netherlands) Virtual Exchange Program (VEP), a virtual offshore alternative that gives international students credit at their local institution for completion of a MOOC in the program. The VEP enables students to connect more directly with other cultures through collaboration, but like all VE efforts has challenges with enrolment as the courses are not self-paced entirely.

During COVID regulations, VE fits in Hybrid and online formats. Because lecturers are busy creating content and shifting courses online or updating online course shells, they have less time for VE that are not already in place. This past year has not shown a drastic increase of courses becoming VE, but more instructors are hearing about VE.

Throughout the past year with the fast-paced shift to remote teaching, new terms were added: remote teaching and remote learning. Remote teaching refers to on-campus courses that shifted to online, blended, and hybrid formats as an emergency response to lockdowns. At first many shifted to live lectures with little changes in their teaching design. Over time, instructors began to develop blended learning despite the knowledge that the courses would return to on-campus formats. The term for remote learning described the learning experience for students who registered for on-campus courses, but at some point during the course, the format was moved online due to COVID restrictions. Therefore, it is possible that much of the new authors in 2020 and 2021 in the online and Blended Learning course formats could actually have been referring to Remote Teaching, a course not specifically designed for online or blended.

Teacher Readiness

During COVID lockdowns, as educators were forced into online spaces last minute, the topic of teacher readiness became more prominent in distance learning. Teacher readiness refers to how comfortable or ready the educator is to teach in online formats. The Pencil Metaphor which originated in 2012, suggested a range of comfort level for lecturers in teaching online with 6 categories: Leaders, Sharp Ones, "Hangers-on", "ferrules", and "erasers", those who resisted teaching online previously, were forced to teach in online formats in 2020 and 2021 (van Valkenburg, 2015). Although popular with Learning Developers and Instructional Designers, this metaphor could invoke emotional responses from

lecturers, particularly from those listed as “erasers”. Support for these groups then shifted from motivating them to try out online formats to helping them survive the fast-paced shift and avoid common mistakes.

I argue that this pencil metaphor should be retired and replaced as 2020 and 2021 has made it clear that not every subject can fully be taught online. Some subjects need Blended Teaching. In the Netherlands children learn to bicycle in stages. Instructors who already had taught online or created blended learning materials were at an advantage during COVID to those who had never taught in blended formats. One reason is that Blended Teachers are more tech savvy than lecturers completely new to online course formats. Success factors included the instructors’ ability to adapt the course beyond the field and humanize the experience of learning with the sensations that “we are all in this together”. Lecturers newer to teaching in online formats can move slowly online through Blended Teaching as they slowly add more online resources to their course over time while gaining feedback from students and peers.

Courses that already had blended learning materials were easier to shift to remote teaching with limited planning compared to on-campus courses that had little or no blended learning. Blended Learning Lecturers who reused materials they created even during COVID times saved preparation time for the next course run. Thus, Blended Learning pre-COVID enabled more choices to instructors.

Dark Side of Isolation during Repeated Lockdowns

Single parent students had an additional burden of home-schooling besides work and school. The classroom became a place they could socialize more than work, discussing the struggles involved with home-schooling a child and other isolation issues. As children fell behind in schoolwork, resources for support of youth with depression and suicidal thoughts had long waitlists in the Netherlands (Troubled children face long waits for psychiatric help, officials call for action, 2021).

Data is not yet available on the effects of lockdowns with curfews on international students or immigrants in general. During curfew, singles who were desperate to talk with others met and not all experienced safe interactions. Throughout parts of the world, a “cuddle buddy” was allowed for those who were single. Deals were made for hugs since some singles were isolated and saw no family, resulting in too high of a price for a hug. Reported sexual assault (which can spread STDs) decreased during curfew and was underreported as both people involved could be in trouble for breaking curfew and COVID regulations with a stranger (Asik & Ozen, 2021).

Informally international students in lockdowns with curfews were commenting that they did not have space to talk with others about negative or dark thoughts because they wanted their family back home to view them as successful and not worry. As a result, these students were left locally with little or no places to talk about negative or dark thoughts. Over time, remote learners were discussing these negative or dark thoughts, such as isolation and depression, in educational spaces topics which, pre COVID-19, were rarely used for discussion of such topics before.

Methodology

This study is an expansion of the prior report on Blended Education with a focus on COVID times in order to create an emergency plan, better course design, and better ease the process of students coming back to campus in Blended formats when campuses open back up. This study produced a forthcoming literature review on students during COVID times.

Main research questions

- What were the needs of teaching staff and teaching support staff in emergency education situations?
- What are the conditions for change management?

Emergency Plan

Although remote teaching due to COVID regulations has been occurring now for more than a year, it is still too early to fully describe all the needs in remote teaching due to COVID regulations to formulate a complete campus wide emergency plan. This article includes an initial emergency plan in 3 parts that could be implemented in other institutions. The teaching staff and teaching support staff during emergency education show need of fast-paced resources in a Lecturer Satchel. Change management for the campus is not easy, but COVID has shown a need globally to rethink how digitalization on campus is implemented. Adding social elements to online learning spaces could increase student engagement particularly for those in isolation. With the above conditions, best practices were compiled in collaboration with lecturers at TU Delft.

Lecturer Emergency Satchel

As lockdowns rolled back out, lecturers had need for a toolkit special for lockdown occasions where they could quickly find self-help resources to improve their workspace at home, their ability to create videos from home, their skills in live classrooms/webinars, and to gain knowledge about student needs during isolation. They needed to be able to find workshops, self-paced courses, and full courses which can help walk them through how to move their courses to Blended and online and back again as needed. TU Delft posted a [Lecturer Satchel](#) on its [Teaching Academy website](#) during the winter lockdown of 2021 as COVID restrictions tightened up just before the holidays (Lecturer Backpack for Teaching in Online Formats, 2021).

Change Management

TU Delft created a social space in [weekly webinars](#) for lecturers where they could come with questions on various needs while transitioning between spaces and they could request future webinars on any topic (Weekly Webinars, 2022). During curfew lockdown in 2020, a topic that the lecturers requested was the Lecturer's Wellbeing. This request from the lecturers came months after Student Wellbeing became a hot topic on campuses across the globe. Lecturers needed a space to discuss opportunities available to them for wellbeing and also what caused the additional strain and how peers were reacting to the current COVID restrictions.

One of the noted issues during these informal chats was a growing need for centrally localized resources. Campuses generally provide the most support to lecturers with little to medium experience in blended and online teaching. Experienced lecturers need a space to pilot tools under guidance of Educational Tooling Experts where the lecturers and experts together can come back with best practices. Licenses for special tools such as VideoScribe are often Faculty driven but should be centralized within an institute for any lecturer with the desire to create animated videos who already has proved skills in creating videos on their own. One reason for central localization of resources is that social spaces for lecturers are needed, particularly during COVID and post COVID times so that lecturers can request fast-changes at a campus-wide scale.

TU Delft has an Educational Tooling Committee that provides advice for tools based on GDPR and the committee shares this advice through the [Educational Tooling](#) webpage (Educational Tooling, 2022). Because new educational tools and software will continue to be released, it's not possible for any committee to review all tools and provide best practice advice for all tools under various possible scenarios. Additionally at TU Delft, an engineering university, there are classes where students are required to develop tools or software and test their products. Not all tools created by students will be GDPR approved or reviewed. Thus lecturers could be taught how to evaluate tools and how to implement tools in their classes in a way that students are advised about the possible risks if a tool isn't GDPR approved or reviewed. A 1-page document could be compiled for lecturers to use when using tools not supported by their institution or that are not fully GDPR approved.

Suggested Social Elements

Student interactions drive the learning in both collaborative learning and intercultural learning. Collaborative learning is defined by Dillenbourg (Dillenbourg, 1999, p. 1) as "a situation in which two or more people learn or attempt to learn something together" (Bruffee, 1993). To add intercultural learning, this would mean that two or more people are focused on intercultural learning together. Collaborative Learning involves intercultural learning if the collaboration involves a cross-cultural experience "...expands students' view of multiculturalism... (and) enhances their self-concept and cross-cultural communication and collaboration competence" (Cifuentes & Murphy, 2000) (Yang, Kinshuk, Sue-Jen, & Huang, 2014).

There are some basic social elements that can be added to any course that may increase the learning for students who experienced more isolation than others. The following is a list of social element ideas that can be added:

- Social café
- Icebreaker as part of an introduction
- Icebreaker for course specific topic/s
- Game based learning
- Group work
- Peer review
- Peer feedback
- Quests with Groups
- Key Takeaways
- Short tasks
- Teach "this" and practice "this"
- Breakout session and Sharing Out
- Celebration moments
- Sharing out how to fail and get back up again
- Explain this (have peers explain concepts to one another)

Here are some examples of icebreakers:

- When you look at the syllabus or programme, what appears to be the most challenging for you?
- How do you cope with failure?
- What was the last challenge that you overcome after failing?

- What skills have you gained in the field already?
- What now seems easy that was hard for you last year?
- If you look at the most difficult part of the programme, what would be the “good enough” feeling for you that makes you feel like you succeeded?
- What does success in this field mean/feel/look like to you?

The journal or reflection activity helps learners walk through their failures and track their successes. For those who floodlight, the focus is on the negative and inability to see the positive. By journaling they face the reality that they are not as bad as their internal negative narration suggests.

Icebreakers

A common icebreaker involves discussing similarities and differences. Asking about similarities and differences before student interactions is part of the preparation to reduce potential communication misunderstandings during the collaboration. Having more similarities than differences is not unique in findings. Signorini, Wiesemes, and Murphy challenged Hofstede’s concepts of differences and found more common ground or similarities between students (Signorini, Wiesemes, & Murphy, 2009). Shifting to focus on similarities can improve the intercultural learning experience and create opportunities to be bicultural according to (Alred, Byram, & Fleming, 2003).

Bringing Students Back

The forthcoming literature review noted that isolated students showed similar traits to people with complex PTSD in that they may have experienced trauma during repeated lockdowns. During the informal chats of the weekly webinars, it was mentioned that students mentioned having flashbacks of lockdowns and being afraid of future lockdowns. Thus, the forthcoming literature review points to applying complex PTSD trauma therapy concepts to education which could be an added value for learners as they return to campus.

A potential challenge as students return to campus is an issue with integrating back into social norms. Similar to those with complex PTSD, for those who were more isolated and possibly experienced trauma during repeated lockdowns, returning to campus may require more social engagement and needing fun in order to feel like a community again. Because COVID restrictions limited the personal element of choice, students could benefit from having choices when possible. If lecturers and program coordinators note disengagement even during the in-person portion of Blended Learning, they can re-evaluate the situation by having a social space and ensuring there are fun moments to reactivate learners. With time and socialization, social norms can return with new perspectives.

Best Practices

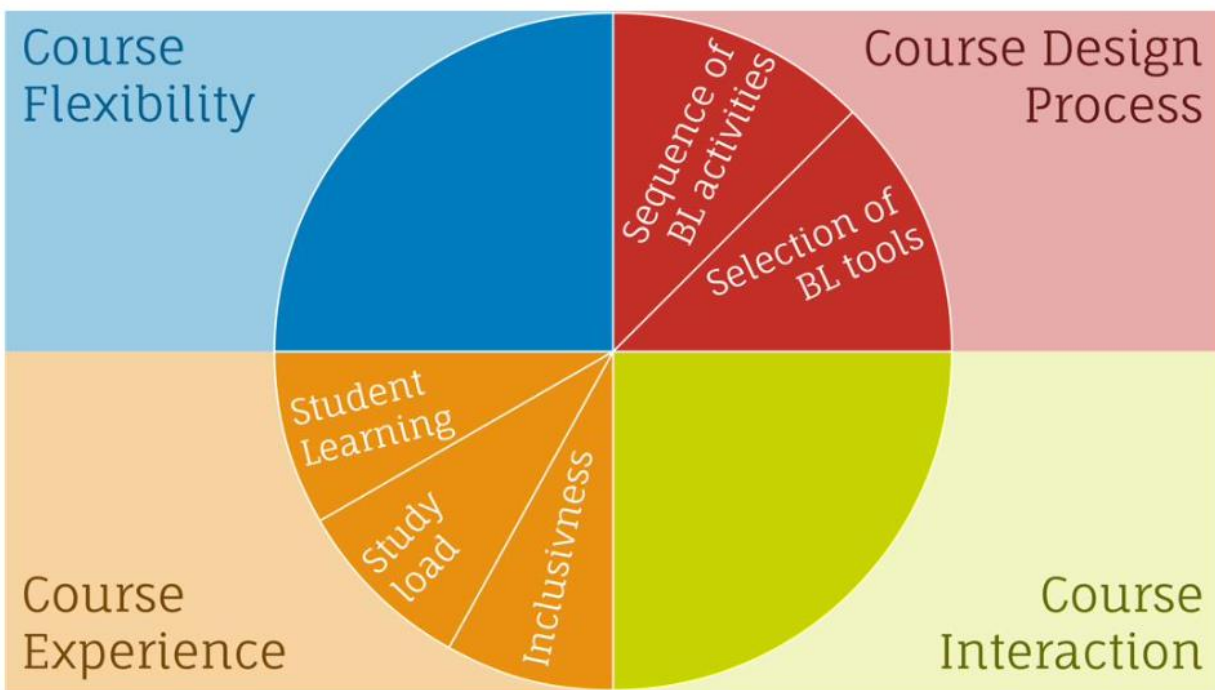
COVID times brought things to light that we were not expecting in education, but it also enabled lecturers to improve online teaching skills and select what worked better for them and their students. At TU Delft, lecturers were interviewed, and a survey was given to participants at Open Education Global (OEGlobal 2021) to better understand what worked well for lecturers and what didn’t work well (Wahls, Ouwehand, & Dijkstra, 2021). A request for a list of social engaging elements in a course was included and the list in this article is pulled from the data of the OE Global 2021 survey. to better understand what worked well for lecturers and what didn’t work well. A request for a list of social engaging

elements in a course was included and the list in this article is pulled from the data of the OE Global 2021 survey.

Course: Blending Your Education

Encouraging Blended Learning will provide flexibility for the unknown future. The EMBED project highlights how to encourage blended learning within an organization. At the course level, the [EMBED](#) project provided a self-assess guide that the Digital Pro Blending Your Education course utilizes (EMBED, 2020).

There are 4 dimensions to consider when blended your course: Course Design Process, Course Interaction, Course Experience, and Course Flexibility. During the course, learners can focus on one dimension as they re-develop their course into a blended course format (Self-assessment Course level, 2020). Combined with these 4 dimensions to consider, the course guides learners on how to create a Blended Learning Wave to actively choose between synchronous and asynchronous learning activities.



The course will also provide further detailed examples of how to add the above-mentioned social elements into your course as well as prepare you for what possible challenges you might have in implementing them. It will also share best practices noted by TU Delft lecturers.

OE Global survey

A survey was taken at the OE Global 2021 and it received 8 results of which 4 approved their data being used for research. The course formats were broken down into blended (2) and remote (2). When asked if there was a request for more social elements in their course, 2 responded yes, 1 responded no, and 1 didn't respond. The type of social elements currently in their course were: group work and peer review.

When asked what type of social element they needed for their course, one responded ‘mental health check-in as students dealt with eviction, job losses, border closing, etc.’ When asked what they changed in the past 2 years, there were the following responses: more use of google docs, Padlet, video quizzes, and constant feedback. When asked what was the nicest social element they experienced, one responded: ‘Small chat with students connecting before learning, games involving polls or challenges.’

Discussion

Although this paper discusses implications during COVID and post-COVID times, the content here can be applied to further improve online and blended education for the future by adding social elements to increase student engagement. Further research could be done on student engagement and social elements in online and blended education. Much of the research focuses on instructor input or feedback or analysis of student work/data. What is lacking is direct student input and viewpoint.

Conclusion

In summary, fast shifts to online educational formats is not the same as planned online education. Support for emergency educational shifts can include:

- a Lecturer Satchel with institute specific support
- Change Management considerations such as
 - weekly webinars
 - centralizing licenses for tool
 - allowing a space for piloting tools
 - one pager guide for tools that aren’t GDPR approved or reviewed
- Adding social elements or social learning spaces online

Initial research findings show similarities between isolated students and people with complex PTSD in the sense of having flashbacks and fear of situations they cannot control. A forthcoming literature review will provide further details.

Despite all the above-mentioned unusual situations, isolation experienced during curfew is not likely to be a repeated situation as curfew has been used throughout history in sparing situations. However, changes in course design to be more inclusive can prepare our future generations. The suggested improved course design adjustments can create a more inclusive course space for learners with extreme or unusual situations.

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