

# **TRANSITIONING FROM FACE-TO-FACE TEACHING TO EMERGENCY REMOTE TEACHING IN LANDSCAPE ARCHITECTURE**

Author(s):

**NADA TOUEIR, GILL LAWSON, MARCUS ROBINSON, DON ROYDS, JESS RAE, SHANNON DAVIS, JACKY BOWRING, ANDREAS WESENER, MICK ABBOTT, SHACHI BAHL.**

Affiliation:

LINCOLN UNIVERSITY, NEW ZEALAND

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## **INTRODUCTION**

Landscape Architecture is a relatively young profession, and its pedagogy has evolved with time to keep up with technological advancements. Like Architecture and most design disciplines, Landscape Architecture is a project-based discipline with a focus on design process. It is based on experiential learning through field trips and site visits and is at the intersection of multiple disciplines while being site and context specific (location, culture, history, ecology, geomorphology, perception, seasonality, etc.). Today, teaching in Landscape Architecture mandates every school to graduate students with the required skills, knowledge, and values to form competent professionals. With COVID-19, the world confronted an unprecedented pandemic that affected the entire planet; more specifically, the education field had to continue delivering courses and classes remotely to make sure students could continue or finish their degrees. Being a site-centric program, Landscape Architecture faces new challenges when confronted to moving online. COVID-19 showed that traditional teaching methods lacked flexibility and needed to adapt to the fast-evolving digital world. This article reviews how an undergraduate landscape architecture program has addressed issues around remote teaching for its studios, theory, and practical courses with a direction to the future. We emphasize the difference between Emergency Remote Teaching (ERT) and Online Teaching (OT). ERT has been applied in courses that were originally not designed to be taught online. In this paper, we report on how we managed the transition from Face-to-Face (F2F) to ERT. We analyze the challenges and opportunities that arose in the process and discuss their potential influence on shaping the future of our teaching Landscape Architecture programs. The results presented in the paper are based on one semester (semester 1, February to June 2020) that was characterized by a New Zealand wide COVID-19 lockdown, which forced all universities to discontinue F2F teaching. However, this is just the beginning of a reflective process. The aim of this article is to bring forward the discussion about whether there is an opportunity for design disciplines to evolve in a new pedagogical direction where blended teaching methods can promote more effective teaching.

## A BRIEF REVIEW OF THE LITERATURE

In this article, we will focus on the definitions, similarities, and differences between Emergency Remote Teaching (ERT), Online Teaching (OT), and Blended Learning (BL). The literature clearly defines them as three different approaches to teaching where OT needs careful planning, ERT is teaching online temporarily while following the same plan as F2F teaching, and BL is a hybrid form of teaching that mixes between physical and online interactions. In the field of Education, clear definitions have been set forward to explain the difference between OT and ERT. Charles Hodges and co-authors define these terms as follows,

“Online education results from careful instructional design and planning, using a systematic model for design and development. The design process and the careful consideration of different design decisions have an impact on the quality of the instruction.”<sup>1</sup>

“Emergency remote teaching (ERT) is a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses and that will return to that format once the crisis or emergency has abated.”<sup>2</sup>

In their book *Is K-12 Blended Learning Disruptive? An Introduction to the theory of hybrids*, Clayton Christensen and co-authors state that, “blended learning is emerging as a hybrid innovation that is a sustaining innovation relative to the traditional classroom. This hybrid form is an attempt to deliver “the best of both worlds”—that is, the advantages of online learning combined with all the benefits of the traditional classroom.”<sup>3</sup> Blended learning, thus allows institutions to utilise advantages of online learning without interrupting the course structure and the faculty role.<sup>4,5</sup>

## LANDSCAPE ARCHITECTURE TEACHING

Landscape Architecture is situated at the intersection of science and art with courses that focus on ecology, engineering, and plants, on one hand, and history, arts, and design on the other. Following the design culture, studio space is where most of the teaching happens, and it is where students learn to combine their acquired knowledge to come up with landscape designs that meet the client’s brief. Digital tools have strong application in the practice of landscape architecture, though this can be strongly weighted to the production of outputs that effectively communicate a completed design. Studio practice continues to be strongly tactile in development and emphasizes practices of hand drawing in both sketching spatial concepts and developing effective masterplans<sup>6</sup>. In addition, Landscape Architecture is a site-centric program where some of the teaching takes place while in the landscape. Plant identification, project building, site visit/evaluation, and landscape assessment are some of the key activities that take place outdoors. Overall, an accredited program in Landscape Architecture combines theory, practical and studio courses. Each course is designed to not only be a comprehensive and self-standing course, but also to feed into other courses to meet the requirements of the profession.

In 1878, Lincoln University started as an agriculture college and has grown into an internationally recognized university comprising three faculties: Agriculture Sciences, Commerce, and Environment, Society and Design. Located in a rural setting, it is only around twenty kilometers southwest of the city of Christchurch. This unique location allows for a diversity of projects ranging from the urban setting to the rural setting with a diverse set of environments to work on.

At the School of Landscape Architecture (SoLA) in Lincoln University, the program consists of one introductory year, and three professional years – a total of four years. In each year, the courses are designed to help the students acquire new competencies while building on previously gained knowledge (Figure 1).

Before the pandemic, one course (a third-year course: Urban Design) had started experimenting with blended learning formats. Traditionally, urban design theory has been taught through lectures. The problem with this teaching format is that there is often only limited time left to do other activities, for example workshops or group discussions. However, research shows that such interactive and collaborative teaching formats promote so-called “deep learning” which is vital for understanding complex concepts<sup>7</sup>. In response, the examiner produced high-quality online content (including urban design short films) which helped free up lecture time, which could then be used for innovative learning formats such as LEGO workshops. These workshops follow a collaborative learning approach where students can apply design principles they have learned through online content (Figure 2).

All other SoLA courses were taught using predominantly ‘traditional’ F2F methods where teachers used a physical space like a classroom or studio for all student-teacher interactions. A common practice used at SoLA was the recording of the lectures to cater for the large number of international students whose first language was not English. In addition, the four years include many site visits and trips all over the country, some of which required an overnight stay to immerse the students in the landscape experience.

	Introductory Year		Professional Program		
	Year 1	Year 2	Year 3	Year 4	
Semester 1	Digital Tools	Planting Design*	Urban Design(B)	Landscape Assessment*	Theory
	Visual Communication	Landscape Design **	Innovative Design*	Complex Design*	Studio
	Earth Sciences		Applied Landscape Practice*		Practical
	Elective	Design Details*	Elective	Elective	Theory + Practical
Semester 2	History of Design	Planting Practice**	Landscape Ecology	Professional Practice	(B) Blended Learning
	3D Design*	Site Design**	Sustainable Design*	Major Design*	* Site visits
	Land Surfaces and Structures	Landscape and Culture			** Overnight field trip
	Elective	Elective	Design Theory	Elective	

Figure 1. Overview of the accredited undergraduate Landscape Architecture program



Figure 2. Lego urban design workshop (2019). Photo: A Wesener

The teaching staff consists of eleven members, three part-time and eight full-time, with two Professors, one Associate professor, two senior lecturers, four lecturers, and two senior tutors.

## **LOCKDOWN AND MOVING TO EMERGENCY REMOTE TEACHING (ERT)**

### **1. Lockdown and Choosing to Move to ERT**

The year 2020 started with announcements from the World Health Organization (WHO) about a fast-spreading virus<sup>8</sup>, and soon after, the whole world went into lockdown. On Monday 23<sup>rd</sup> March 2020, New Zealand Government announced a country-wide lockdown to be begin on Wednesday 25<sup>th</sup> March<sup>9</sup>. Like the rest of the world, no one was prepared, and most importantly, no one knew how to transition to online teaching. Early in the process, there was no clear platform that could be used, and the top two candidates were ZOOM and MS Teams. Working closely with the IT department at Lincoln University, it quickly became clear that MS Teams will be the best software to use to communicate and teach classes online.

As a department, all staff worked closely to maintain a consistent and coherent way to teach online. It was clear that ERT was the optimal choice instead of OT as there was not enough time to plan and prepare for a new way of teaching.

### **2. Teaching Practical, Studio, and Theoretical Courses under ERT**

Three methods were used for ERT that are similar to the online education pedagogy presented by Barbara Means and co-authors. These methods are: “expository” (communication through video/audio or text); “interactive” (group working amongst peers), and “self-learning or independent practices”.<sup>10</sup> After multiple online meetings, all staff familiarized themselves with MS Teams and agreed to use it in similar ways across all courses to maintain consistency. Teaching resumed and classes were taught as they were initially planned, except they were online. Staff met regularly to share knowledge and

update each other, but quickly it became clear that some courses were working better than others. Everyone kept track of the challenges and opportunities that arose over the course of the semester and semi-structured online video-sessions were conducted and recorded<sup>11</sup>. ERT was a challenge mainly for digital and practical courses as they either were in the process of building a project on site or preparing for a week-long trip to fulfill the requirements of the program.

The ‘Applied Landscape Practice’ course relies heavily on being able to have students out on a site, implementing a landscape plan. When the course switched to ERT the students had completed only one assessment, a set of detailed design documentation, and the practical elements were planned to be carried out several weeks after the move to ERT occurred. Instead, this practical component and assessment was modified to become four, weekly tests that used material created specifically for the course. The course included DIY, or ‘Do It Yourself,’ videos from local suppliers, staff recorded videos of implementation techniques, methods of implementation, safety considerations, and a glossary. Therefore, practical exercises such as bridge building and testing were scaled down and modified so students could develop their own ‘at-home’ experiments for reporting.

A field tour to Queenstown, about 6 hours’ drive south of Lincoln University, was cancelled because of the lockdown. An alternative field tour was required, one which students could do from their homes, wherever they were in the country. The DIY field tour required students to locate sites for study near where they live, which encouraged them to realize that designed landscapes are everywhere – streets, playgrounds, car parks – not just in special locations like Queenstown. Through sketching and analysis, the students critiqued the sites, working independently with the online guidance of the field tour leader. The students uploaded their drawings and commentary, revealing fresh and informed critical appreciation for the ‘ordinary’ landscapes in which they live.

Closure of computer labs during ERT created challenges for teaching software applications, as computers that were specifically set up for teaching were not physically available. This meant that students had to try to meet the specific licensing and resource requirements of the software on their personal computers. Computer labs were set up to allow students to log in remotely but working on these was considerably slower and not all software could be used remotely.

For studio courses, on one hand, they faced some obstacles due to the lack of interaction between students and staff. The experience of teaching designs studio projects during lockdown forced a rapid change to this understanding of the design process as online critique created several barriers to the role of sketching in design development and critique processes and its place in studio-based design courses. A significant challenge was identifying suitable techniques to model drawing and sketching in the design process. Ideation techniques that use trace paper in quick hand sketching proved most problematic to both demonstrate and also encourage students to adopt. Hand rendered work (project working drawings, site sketches and details had to be digitized using readily available downloadable apps. Subsequent issues with accuracy, clarity and scale meant review methods had to be adapted. On another hand, studio feedback sessions, conducted synchronously or asynchronously, turned out to work well for students and staff. Screen sharing of tablet platforms proved most adept at this, so while staff could use these techniques, many students did not have access or sufficient expertise in these tools for this to be effective. Some asked students to collate drawings in a single document, and they would control the viewing of the document, so they could move to specific sketches or parts of a masterplan and ask the student to discuss what was being developed. This method also enabled students and staff to interact asynchronously and at times that suited both parties. For example, students would post work up online and request a critique, and staff would provide feedback annotations on the collated works when they were available. Online presentations were also more

accessible to the wider public and many people could attend no matter where they were in the country and were particularly useful for more advanced classes.

Theoretical courses were the least affected by the online world in terms of delivering the content, they were taught either synchronously or asynchronously. The first allowed for guest lecturers to interact with students and for live question and answers sessions; the second offered students the ease to listen to the content at their own time and the allocated class time was dedicated for special topic tutorials with the students. Even with allocated time for direct contact, theoretical courses lacked in teacher-student interaction as students did not feel comfortable opening their cameras and microphones to ask questions or interact with the teacher. Another technique used for teaching lecture-based courses was the use of online chatrooms. Allocated times for live chat were set in advance, with the course lecturer online for the duration of the session. Students found these open sessions with direct access to the course examiner helpful for quick questions and short discussions. Chat threads were then saved for students who did not attend the session.

Providing online ‘office hours’ was also a useful approach to maintaining and strengthening the student/teacher relationship. Providing time one-on-one, or small group video calls, students could talk directly to the course examiner.

### **3. Barriers and Enablers of ERT**

For the purpose of this article, the attention is on the staff’s experience with ERT and not the students since it was not an opportune time for ethical approval. The data was collected over the course of recorded online meetings. Staff members were asked a series of questions about their experience using ERT and the different lessons learned. As mentioned in the previous section, ERT was a challenging approach to teaching in Landscape Architecture. This new method of teaching took an emotional and psychological toll on students and staff. Also, many students did not have basic time management skills, and keeping track of classes and assignments was a challenging task that many students struggled with.

Not only did the teaching staff have to teach using unfamiliar ways, but they also needed to learn how to use and master new software programs that they did not necessarily know before. Also, all teachers needed to find appropriate places in their households to be able to comfortably teach while having family members in similar situations, and children requiring online education support. In addition to all these issues, all staff were tending to students needs and worries by extending class times or contact hours which led to longer working hours.

By the end of lockdown, it was clear that ERT acted as a barrier to the traditional ways of teaching Landscape Architecture, but it also presented some opportunities that have the potential to be part of a new way of looking at landscape education. As a department, it was clearly an opportune time to start a discussion around blended learning approaches and how they can be beneficial for the discipline.

### **CONCLUSION - LESSONS LEARNED: LOOKING AT THE FUTURE OF LANDSCAPE EDUCATION**

According to Clayton Whittle and co-authors, the Emergency Remote Teaching Environment (ERTE) Framework is “a conceptual framework through which teachers can plan and researchers can conceptualize learning in these emergent environments.”<sup>12</sup> To evaluate the efficacy of the ERT experience, the Framework identifies “three [nonlinear and iterative] steps: inquiry, classifying available resources into constants and variables and designing educational experiences”<sup>13</sup>.

In the case of SoLA, the framework helped in identifying courses that can potentially incorporate BL techniques. A total of eleven courses were selected and they all range from 1st year to 4th year

courses. These courses are currently testing BL techniques, and none of them are fully online courses, but all have the potential for both online and F2F teaching (Figure 3).

		Introductory Year		Professional Program		
		Year 1	Year 2	Year 3	Year 4	
Semester 1	Digital Tools(B)	Planning Design*(B)	Urban Design(B)	Landscape Assessment*		Theory
	Visual Communication (B)	Landscape Design ***(B)	Innovative Design*	Complex Design*(B)		Studio
	Earth Sciences		Applied Landscape Practice*			Practical
	Elective	Design Details*(B)	Elective	Elective		Theory + Practical
Semester 2	History of Design (B)	Planning Practice*(B)	Landscape Ecology	Professional Practice		(B) Blended Learning
	3D Design*(B)	Site Design*	Sustainable Design*	Major Design*(B)		* Site visits
	Land Surfaces and Structures	Landscape and Culture				** Overnight field trip
	Elective	Elective	Design Theory	Elective		

Figure 3. Courses using Blended Learning (B) Techniques

In the report *The Rise of K-12 Blended learning*, Horn and Skater describe six models for blended learning that are established in the learning experience of students which include physical space, teaching method, teacher role and curriculum planning<sup>14</sup>. We, however, present a reflection centred around the values that staff members have for transitioning to BL for their courses, which include widening access to material and instruction; supporting students with varied needs; improving student involvement by expediting small group and one-to-one teacher/tutor led instruction and adding variety to instruction to support learning of complex concepts.

Since the end of lockdown in New Zealand (July 2020), the department has been experimenting with different hybrid techniques: recorded lectures (synchronous or asynchronous), feedback sessions for studios and tutorials, project presentations, and assessments. Software tutorials were all pre-recorded and made available online, which meant students could follow along at their own pace. Students appreciated this aspect, and as a result this is something that has been implemented in our courses after ERT and as part of new BL methods. Next steps will include further evaluation of these methods and to measure students’ satisfaction.

## NOTES

- <sup>1</sup> Charles Hodges et al., "The difference between emergency remote teaching and online learning," *Educause Review* 27 (Friday, March 27 2020): 3, <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>.
- <sup>2</sup> Hodges et al., "The difference between emergency remote teaching and online learning," 6.
- <sup>3</sup> Clayton M Christensen, Michael B Horn, and Heather Staker, "Is K-12 Blended Learning Disruptive? An Introduction to the Theory of Hybrids," *Clayton Christensen Institute for Disruptive Innovation* (2013): 3.
- <sup>4</sup> Christensen, Horn, and Staker, "Is K-12 Blended Learning Disruptive? An Introduction to the Theory of Hybrids."
- <sup>5</sup> Cornelia Connolly and Tony Hall, "Designing for emergency remote blended and online education: a response to Bennett et al.(2017)," *Educational Technology Research and Development* 69, no. 1 (2021).
- <sup>6</sup> Olga Ioannou, "Opening up design studio education using blended and networked formats," *International Journal of Educational Technology in Higher Education* 15, no. 1 (2018).
- <sup>7</sup> Karin Scager et al., "Collaborative Learning in Higher Education: Evoking Positive Interdependence," *CBE—Life Sciences Education* 15, no. 4 (2016), <https://doi.org/10.1187/cbe.16-07-0219>, <https://www.lifescied.org/doi/abs/10.1187/cbe.16-07-0219>.
- <sup>8</sup> "Listings of WHO's response to COVID-19," 2020, accessed 9 May 2021, <https://www.who.int/news/item/29-06-2020-covidtimeline>.
- <sup>9</sup> "Unite against COVID-19," n.d. , accessed 9 May, 2021, <https://covid19.govt.nz/>.
- <sup>10</sup> Barbara Means, Marianne Bakia, and Robert Murphy, "Research on the effectiveness of online learning," in *Learning online: What research tells us about whether, when and how* (New York: Routledge, 2014).
- <sup>11</sup> John Creswell, *Research design: Qualitative, quantitative, and mixed methods approaches* (SAGE Publications, Incorporated, 2009).
- <sup>12</sup> Clayton Whittle et al., "Emergency remote teaching environment: a conceptual framework for responsive online teaching in crises," *Information and Learning Sciences* (2020): 313.
- <sup>13</sup> Whittle et al., "Emergency remote teaching environment: a conceptual framework for responsive online teaching in crises," 313.
- <sup>14</sup> Michael B Horn and Heather Staker, "The rise of K-12 blended learning," *Innosight institute* 5 (2011).

## BIBLIOGRAPHY

- Bender, Diane M, and Jon D Vredevoogd. "Using Online Education Technologies to Support Studio Instruction." *Journal of Educational Technology & Society* 9, no. 4 (2006): 114-22.
- Christensen, Clayton M, Michael B Horn, and Heather Staker. "Is K-12 Blended Learning Disruptive? An Introduction to the Theory of Hybrids." *Clayton Christensen Institute for Disruptive Innovation* (2013).
- Connolly, Cornelia, and Tony Hall. "Designing for Emergency Remote Blended and Online Education: A Response to Bennett Et Al.(2017)." *Educational Technology Research and Development* 69, no. 1 (2021): 281-84.
- Creswell, John W, and J David Creswell. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage publications, 2017.
- Hodges, Charles, Stephanie Moore, Barb Lockee, Torrey Trust, and Aaron Bond. "The Difference between Emergency Remote Teaching and Online Learning." *Educause Review* 27 (Friday, March 27 2020). <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>.
- Horn, Michael B, and Heather Staker. "The Rise of K-12 Blended Learning." *Innosight institute* (2011): 1-17.
- Ioannou, Olga. "Opening up Design Studio Education Using Blended and Networked Formats." *International Journal of Educational Technology in Higher Education* 15, no. 1 (2018): 1-16.
- Means, Barbara, Marianne Bakia, and Robert Murphy. "Research on the Effectiveness of Online Learning." Chap. Research on the effectiveness of online learning In *Learning Online: What Research Tells Us About Whether, When and How*. New York: Routledge, 2014.



- Mishra, Lokanath, Tushar Gupta, and Abha Shree. "Online Teaching-Learning in Higher Education During Lockdown Period of Covid-19 Pandemic." *International Journal of Educational Research Open* 1 (2020): 100012.
- "Unite against Covid-19." n.d., accessed 9 May, 2021, <https://covid19.govt.nz/>.
- Newman, Galen, Benjamin George, Dongying Li, Zhihan Tao, Siyu Yu, and Ryun Jung Lee. "Online Learning in Landscape Architecture: Assessing Issues, Preferences, and Student Needs in Design-Related Online Education." *Landscape Journal* 37, no. 2 (2018): 41-63.
- Oyedotun, Temitayo Deborah. "Sudden Change of Pedagogy in Education Driven by Covid-19: Perspectives and Evaluation from a Developing Country." *Research in Globalization* 2 (2020): 100029.
- Powell, Allison, John Watson, Patrick Staley, Susan Patrick, Michael Horn, Leslie Fetzter, Laura Hibbard, Jonathan Oglesby, and Sue Verma. "Blending Learning: The Evolution of Online and Face-to-Face Education from 2008-2015. Promising Practices in Blended and Online Learning Series." *International association for K-12 online learning* (2015).
- Scager, Karin, Johannes Boonstra, Ton Peeters, Jonne Vulperhorst, and Fred Wiegant. "Collaborative Learning in Higher Education: Evoking Positive Interdependence." *CBE—Life Sciences Education* 15, no. 4 (2016): ar69. <https://doi.org/10.1187/cbe.16-07-0219>. <https://www.lifescied.org/doi/abs/10.1187/cbe.16-07-0219>.
- Whittle, Clayton, Sonia Tiwari, Shulong Yan, and Jeff Williams. "Emergency Remote Teaching Environment: A Conceptual Framework for Responsive Online Teaching in Crises." *Information and Learning Sciences* (2020).
- "Listings of Who's Response to Covid-19." 2020, accessed 9 May, 2021, <https://www.who.int/news/item/29-06-2020-covidtimeline>.