

A FOCUS ON PEDAGOGY



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A Focus on Pedagogy: Teaching, Learning and Research in the Modern Academy



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INTRODUCTION

A Focus on Pedagogy: Teaching, Learning and Research in the Modern Academy

This publication is the product of the conference *A Focus on Pedagogy: Teaching, Learning and Research in the Modern Academy* held virtually 2022 based on the following call:

Today the education sector is going through what most commentators see as an unprecedented period of change. The assumption is that in the wake of COVID-19, many standard modes of teaching and learning have changed forever. While that is undoubtedly true and of fundamental importance, many aspects of what we do remains the same. Our need to publish, bring in research funding, and get positive student assessments have not gone away. The knowledge we need to impart, and the mindsets we seek to loosen or develop, remain as engrained as ever. Similarly, long established research areas are still to be explored. Whether it be the environment, learning psychology, social networks, creative practice or design thinking, what we research remains relevant and pressing.

In addition, despite the 'strangeness' of the change around us, some disciplines find themselves in unexpectedly familiar domains. The digital arts, media and communication studies are operating on platforms many see as natural. The proponents of distance learning are employing techniques they had been honing for years. Acolytes of educational technologies are perfecting platforms they have been developing for decades. The effect of the pandemic on our teaching and research then, is far from uniform or wholly negative. Set in this context, this conference reminds us that, in addition to the pandemic, there are other issues at play for educators and researchers today. Asking us to take a step back from the flux we have been in recently, it invites us to discuss both the radical realignments that have been necessary in recent times, and those aspects of our pedagogy that have continued unaffected by remote teaching. Bringing both sides of this coin together, the intention is to better grasp the tenor of teaching and research in today's changing, and increasingly hybrid, academy.

This publication captures the diverse responses that emerged from the event and the variety of ways academics internationally currently operate with today's education sector.

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ADVANTAGES AND DISADVANTAGES OF REMOTE LEARNING: A CASE OF DESIGN WORKSHOP

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INTRODUCTION

COVID-19 pandemic has been a stress test in many fields including education from one point, however, it is also an opportunity to see how the current education system is fragile and to have test for a whole remote learning.

Remote learning can be confusing with the following phrases: distant learning, online learning, digital learning, and virtual learning. Godschalk and Lacey,¹ defined remote learning as a process of teaching and learning that relies on a mode of delivery that is available anytime and anywhere to suit the needs of individual students; selective use of communication tools to facilitate self-learning as well as group learning experiences; and collaborative learning approaches that encourage student-to-student and faculty-to-student interaction. On the other hand, some scholars are conflicting by the statement of The Digital learning process does not merely represent a learning system in the literature.

Remote learning in history

To interpret the reflection of COVID-19 pandemic on education, it is important to understand the development in remote teaching activities (figure 1). In learning and teaching activities in general, the very first milestone is the invention of writing, that we can date back to approximately 5000 years old. From technological aspect, a crucial invention that played a very big role in the discipline of education is invention of printing. This machine has a long story of evolution but the very first one, the ancestor, can be dated back to 500 years ago to German goldsmith Johannes Gutenberg who is credited with inventing the printing press around 1436.²

Even though most people have the impression that remote learning almost emerged with this final pandemic, it is not a fact, it is only an increase. In figure 1 some technological development regarding computer networks and correspondingly the pioneer in online education is presented. In the early years, academics and educators had limited access to computer networks. Nonetheless, many of the scientific researchers involved in early experiments with ARPANET were also academics, and by starting to link their students with the larger knowledge community, they introduced e-mail and computer conferencing into their courses.³ Educational adoption of computer networking began in the mid-1970s, following closely upon the invention of e-mail in 1971 and computer conferencing in 1971. One of the earliest examples was the Canadian Réseau d'Ateliers Pédagogique Pilot (RAPPI) network, which linked schoolchildren and teachers in over 70 secondary schools in Canada, France, England, and Italy. RAPPI used the computer conferencing system at the University of British Columbia and Canada for

information exchange.⁴ As access to computers and networks continued to grow from the early 1980s, online collaborative learning started to be existing.

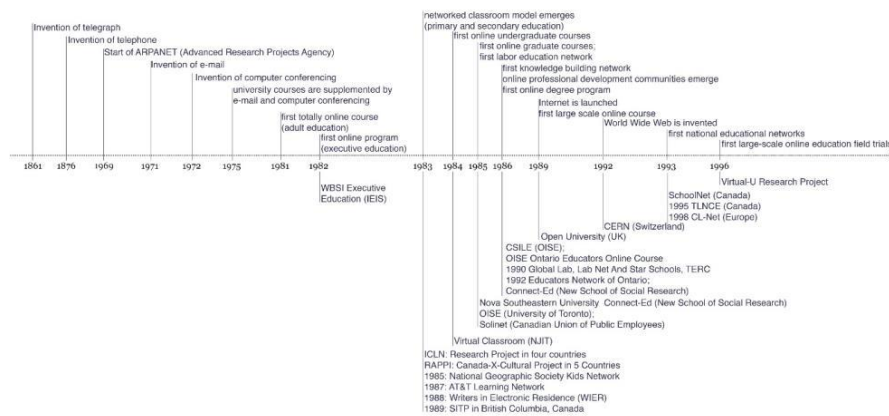


Figure 1. History of remote teaching, produced after.⁵

Learning during previous pandemics

The Covid-19 was not the first health crisis humanity have faced. There were many epidemics and pandemics before such as the flu pandemic in 1918 and swine flu in 2009. During both epidemics, institutions of higher education (IHEs) were able to contain the viruses on campuses and maintain continuity of education.⁶ First of all, during these previous epidemics, student populations were smaller. In 1918, morale played a factor. At that time, many citizens were serving in WWI. Their sacrifices overshadowed the sacrifices required by those whose education was inconvenienced.⁷ Regarding swine flu, Self-isolation on campus was possible, and classes continued safely through restructuring and by adding a distance-learning component.⁸

In 2009, the Centers for Disease Control (CDC) created guidelines for IHEs to follow in the event of a pandemic. Unfortunately, the H1N1 influenza virus hit before most plans were solidified. But The H1N1 virus was managed with an abundance of caution and was contained within most campuses and controlled by the institutions. Very few institutions needed to shut down. so based on previous studies the big success was due to high engagement of students.⁹ Guidelines were updated in 2017 by the American College Health Association (ACHA), and academic affairs were also addressed. One guideline was to develop and disseminate alternative procedures for completing coursework such as through web-based instruction or lessons and assignments delivered by mail.¹⁰

Remote learning in design fields after COVID-19 Pandemic

This new pandemic, COVID-19, showed us it is much more important to be proactive than reactive. Because the spread was much faster/unpredictable and the from medical point of view it was more serious the results. And it was an inevitable action to shut down the institutions, academies, universities due to inevitable quarantine. The response to this shutdown showed that we are not so ready in educational institutions to move remote learning.

Due to quarantine, social distancing measures, and disruption in academic schedule, students are likely to suffer from psychological problems such as future anxiety, stress, anger, loneliness, and boredom. A sudden disruption in education amid COVID-19 may result in the feeling of future anxiety that makes a student highly anxious and threatened about the future, the excess of which considered a psychological disorder. Many students were found worried and uncertain about exams, graduation, receiving an academic degree in time. They were also worried about an individual and family's health. This

phenomenon is likely to affect the student's ability to cope with the changing circumstances and respond to the forced immersion into digital learning, which is altogether different from traditional classroom teaching.

The COVID-19 pandemic and its related control measures have forced many higher educational institutes to migrate their teaching into virtual space. For most schools of architecture design studio is the central pedagogical approach; its migration to virtual space raises a few issues.¹¹ Virtual Design Studio has been a part of architectural pedagogy for more than two decades.¹² The approach to remote learning in design studios in the literature is conflicting. As Gokhale and Vaze,¹³ investigated the Impact of the pandemic on Architectural Education, they reviewed both positive and negative aspects. Architectural education is moving towards digitalization, where students are using the simulation-based design process to incorporate experimentation and thinking through making.¹⁴ Virtual Design Studio has shown significant potential in creating a more connected, multicultural, and interdisciplinary environment for learning.¹⁵ Last but not least, the students of today are those who have been born and raised with digital communication media, they are the native speakers of the language of digital space¹⁶ and technology has become cheaper, more accessible, and an inseparable part of everyday life. Despite all these positive approaches, there are also negative approaches that says this teaching method is not effective in design fields. For instance, the design studio is not a mere classroom but is a way of life and poses an interconnected intrinsic socio-spatial character.¹⁷ Design studio education aimed at the initiation of creativity achieved with enhanced social interaction and collaboration.¹⁸ The design studio is a social learning space where teaching and learning processes occur in the face-to-face mode in a physical space.¹⁹ A study, conducted after COVID-19 pandemic stated that design education is not only about problem-solving and design products; it is also about developing a social character, a communicable identity with the capacity to observe and make peer connections.²⁰

MATERIALS AND METHODS

The case: Workshop Briefing

An intense design workshop, Special topics in Landscape design, that is one of the elective workshops for master students to attend in Politecnico di Milano (POLIMI), in the program of Sustainable Architecture and Landscape Design.²¹ It is structured on the platform of a professional design office with individual and collaborative modes of working. In each edition, it explores the conceptual framework that guided the production of forms in today's landscape architectural practice through a multidisciplinary approach. Pin-ups and design critiques contribute to the process.

The last (2021) edition is called as the 'Green vs Grey'. And guidelines were given to students in order to transform the historical city centre of Piacenza into a network of sustainable urban landscape. The purpose of the workshop is to find ways of improving the city's resilience to climate change, enhancing the public realm, and increasing connectivity in the city centre. This course aims to examine the ways of incorporating more green spaces with as specific focus on vertical green systems. The course showed the historical use, the characteristics, and benefits of vertical greenery. It further analysed their use on the city of Piacenza, to find methods of using them in other public spaces in historic towns. Students were expected to explore, evaluate, and practice all forms of design and planning communication: graphic representation, verbal presentation, and critique discussions. The syllabus consists of introductory lectures as well as an intensive studio work to comprehend the principles and concepts behind evaluating, analyzing, and designing vertical and open spaces.

In the framework of this workshop, many speakers (from Italy, Greece, Cyprus, UK, America, Australia) who are experts in their fields are invited to give a lecture on several topics about greening in built environment, green infrastructures e.g., urban parks and vertical greenery, benefits of greenery like air purification or biodiversity enhancement. The poster (see figure 2) included all the

intercontinental invited speakers' lectures with timeline, as well we a brief introduction of the workshop. The invited guests' lectures are organized open to everyone, so this poster is shared on social media channels, as well as official communication channels of POLIMI, to let invite other possible interested audience to enhance the collaboration and share the knowledge as much as possible.



Figure 2. Workshop poster used to disseminate (Ogut, O., 2021)

Questionnaire content

The questionnaire consists of 6 classes of questions besides the introductory questions i.e., (1) Interest for this course, (2) Teaching, (3) Lecturers, (4) Supplementary educational activities, (5) Infrastructures for this course, (6) Overall satisfaction for this course. For each of the ensuing questions, the students were asked to choose one of the four available answers (strongly disagree, partly disagree, partly agree, and strongly agree), which refer to the numeric values 1, 2, 3, and 4 respectively to run statistical analysis. OriginPro version 2018²² used to conduct the statistical analysis. Questions are listed below:

Introductory Questions:

- Cross out your lesson-attendance rate for this course.
- Estimate the average number of students attending classes in this course at distance.
- How big is the individual workload required in this course?
- What percentage of the workload did you covers so far?
- If less than 25% specify a reason.

Interest for the Course	
1	You are interested in the course subject (regardless of how it is carried out).
Teaching	
2	Your prerequisites were good enough for an adequate understanding of the subject.
3	The teaching was carried out consistently with the plan on the course website page.
4	There were no useless subject-reiterations from other courses you attended.
5	The required workload in this course is proportioned to the awarded credits.
6	The educational material (either recommended or supplied) is adequate.
Lecturers	
7	The lecturer is able to motivate my interest in the subject.
8	The lecturer clearly explains the subject.
9	Lectures enhance the learning process.
10	Exam modalities and procedures are clear.
11	The educational material was provided in due time by lecturers.
12	Classes comply with the scheduled timetable.
13	Lecturers are available for clarifications and explanations.
Supplementary Educational Activities	
14	Supplementary activities match with classes.
15	Attending non-class activities (trainings, tutorials, laboratories, etc.) is beneficial to the learning process.
16	Trainers/tutors clearly and effectively explain the subject.
Infrastructures for the Course	
17	Lecture rooms are adequate for listening and reading.
18	Seats are available in lecture rooms.
19	Room and equipment for supplementary activities (trainings, laboratories, seminars, etc.) are adequate
Overall Satisfaction for the Course	
20	Overall, you are satisfied with the course implementation.

Table 1. List of questionnaires

The three academic years, in other words three editions of the workshop is included for analysis. And three different situations are compared: (1) PRE-COVID: Only in-person,²³ (2) POST-COVID: Only online, and (3) POST-COVID hybrid -both in person and online-. Number of participants are shown in table 2, for the 3 cases it is 27, 33, and 41 respectively.

Academic year	Teaching Mode	Attended students
2018-2019	PRE-COVID	29
2019-2020	POST-COVID (only online)	33
2020-2021	POST-COVID (hybrid)	41

Table 2. Number of participants to questionnaires n academic years

RESULTS AND DISCUSSION

Outcome of the workshop

The program of the workshop explored ways of analysis and evaluation methods, focusing on the character of the given landscapes. Using the knowledge gained from the previous studio and courses, as well as from concurrently running courses, students will engage in advanced landscape design

processes by representing the landscape design and the characteristic details from specific works in vertical walls and open spaces and they will explore the contemporary examples including drawings and construction details, three-dimensional actual and computational models, digital media, written descriptions, and analyses. In figures 3 the location of two project areas, in figure 4 some analysis, and in figure 5 some design solutions are presented from the last edition as final multi scale outcomes done by student groups. Groups consisted of 3 to 4 students that also contribute to social skills of students such as ability to work in teams in an international environment since the students were from different countries.

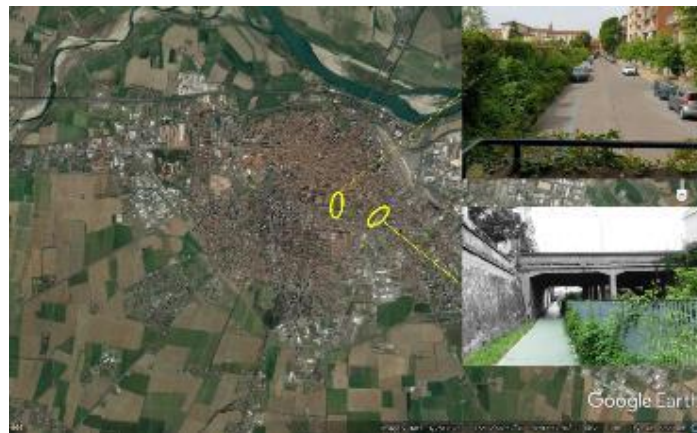


Figure 3. Location of two project areas in Piacenza

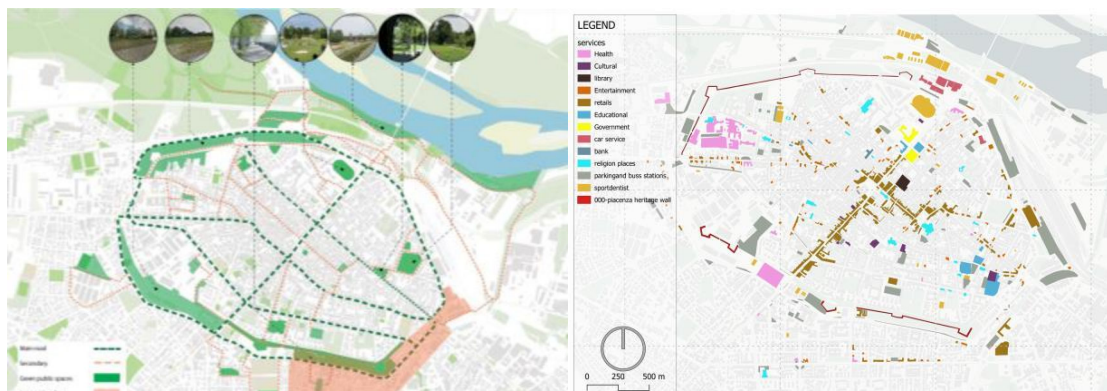


Figure 4 Mobility and public areas, and function analysis



Figure 5. masterplans for project area 1 and a detail

Statistical analysis

All the answers to questions are analyzed by their first and third quartiles, median, and mean as represented with box plots in figures 3, 4, 5, and 6. Possible maximum and minimum values are 4 and 1 respectively.

Questions numbered 17, 18, and 19 are not proper to the academic year 2019-2020 since these questions are related to classroom conditions and the workshop was held only online on that year. Similarly in the academic year of 2020-2021, since not all the students attended in person. Therefore, these questions are excluded to interpret the evaluation of the effect of COVID-19 pandemic.

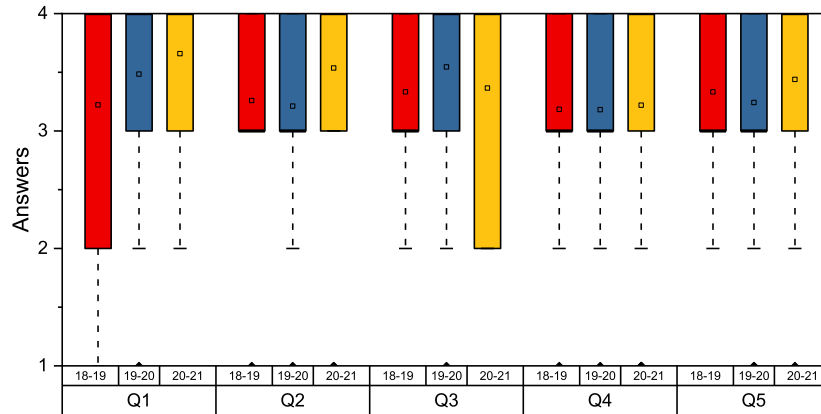


Figure 6 . Box plots of questions 1 to 5 in three different teaching moods (derived from OriginPro 2018)

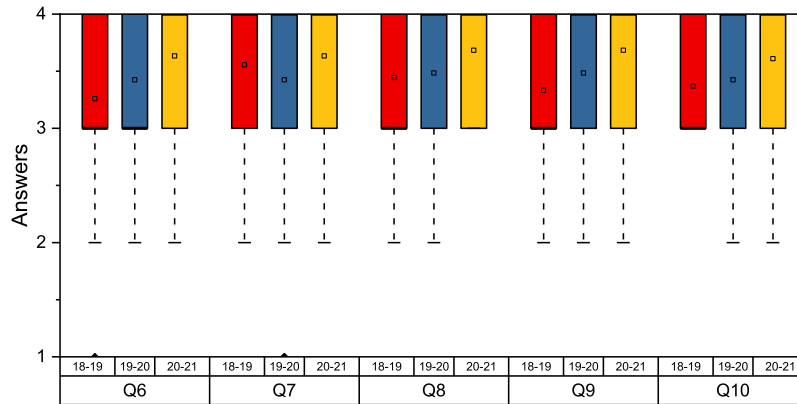


Figure 7. Box plots of questions 6 to 10 in three different teaching moods (derived from OriginPro 2018)

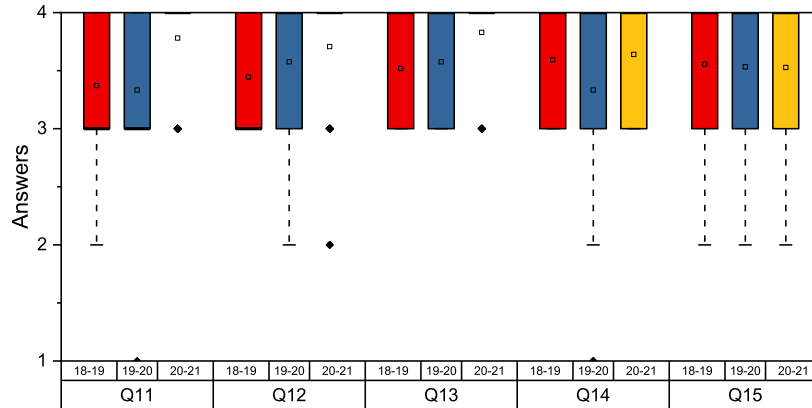


Figure 8. Box plots of questions 11 to 15 in three different teaching moods (derived from OriginPro 2018)

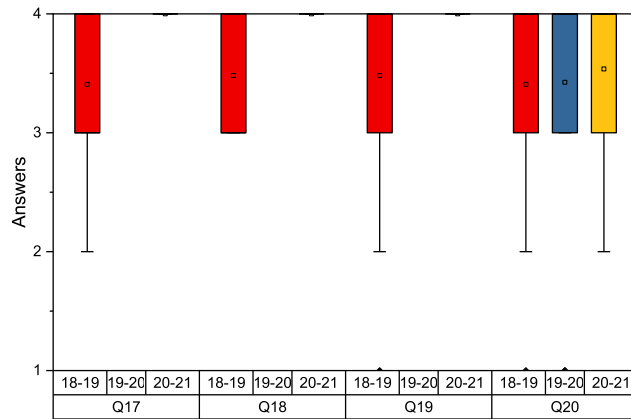


Figure 9. Box plots of questions 16 to 20 in three different teaching moods (derived from OriginPro 2018)

The results mostly showed that students are satisfied more in the academic year 2020-2021 when the workshop was conducted both online and in person. This result is reasonable due to the fact that this method of teaching allows students to choose the attendance way that makes them more comfortable. In other words, the students were free to choose whether they want to be online, and in-person and this flexibility made both students give high scores. If means are ordered from smallest to largest, the only in-person and only online editions change the order of the first and second.

Despite the overall highest satisfaction in the hybrid teaching, there is one exception. In questions numbered 3 (i.e., There were no useless subject-reiterations from other courses you attended.) the only online edition has the highest mean. However, the answers to this question are based on students' previous studios and lectures and based on the content of each course.

CONCLUSION

The COVID-19 Pandemic has caused many changes and in all the aspects of life, including the education with a required paradigm shift. All academic institutes and schools had to switch from face-to-face education to remote learning during the quarantine period, even after in order to reduce and prevent the spread of the virus. This change was mandatory and unplanned. Academicians, lecturers, and students had conflicts if this shift from face-to-face to remote since it has both pros and cons.²⁴ In

the case of abovementioned workshop held in POLIMI ‘Special Topics in Landscape Design’ that previously held in person and similar research was carried out²⁵ during the 2018-2019 academic year, showed the challenges in remote teaching on design fields, as well as opportunities that can be benefited. Mandatory device ownership and internet access, together with technical problems regarding internet and electricity connection are always a challenge/disadvantage in remote learning both for lecturers and students. There are some relative problems such as home conditions (e.g., the existence of a baby) or more specifically for the lecturers, if they follow the traditional methods, they had to improve their digital skills. There are also disadvantages about the effectiveness of teaching because there is no possible way to check the students’ condition even if they turn their camera on. In addition, some students became ‘shy’ after the pandemic when social in person interact is lacking.

Despite all these disadvantages, remote learning is a very effective solution for the international teaching activities since it makes the limits of time and space disappear. It makes the access easier to the materials and decreases the cost of travelling, obtaining materials, printing booklets or boards.

Sustainable Development Goals are defined by UN Agenda 2030²⁶ which is a commitment to achieve sustainable development by the year of 2030 world-wide, ensuring that no one is left behind. They are 17 SDGs that include 169 targets. Remote learning corresponds especially with goal 4²⁷ (i.e., Quality Education) and targets 4.3. (i.e., by 2030, ensure equal access for all women and men to affordable and quality technical, vocational, and tertiary education, including university) and 4.4. (i.e., by 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship). This new paradigm shift can correspond to target 4.3. by reducing barriers to have education at different levels, including university as well. It can also contribute to achieve target 4.4. by supporting individuals to obtain both technical and vocational skills.

NOTES

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