THE BENEFITS OF DISTANT METHODS OF ARCHITECTURAL EDUCATION IN THE POST-COVID AGE: CONFINEMENT AND LIBERATION*

ABSTRACT

With the digital environment, the capacity to communicate and be connected beyond the narrow economic, political and social dimensions has increased. Are the conditions for closing universities across the world in 2020 delineating the system of architectural education as confinement or liberation? Searching for answers, we take into account not only the conditions currently emerging in the world, but rather emulate the stage of life that reveals the conditions which produce the world. Accordingly, this presentation discusses new educational contexts for the post-Covid age and investigates alternatives to the traditional studio teaching. It provides a theoretical insight into how knowledge is used as an approach to online teaching and what alternative pedagogies are applicable against the backdrop of the escalating large-scale crisis, such as the Covid-19 pandemic. This presentation takes a series of architectural programmes and workshops performed at European universities and across the United States that test alternative educational methods. By examining the relationships in the production and ways of disseminating knowledge across diverse platforms, I hope to discover how the current unstable and unpredictable educational context regenerates virtuality, instrumentalities and intelligences to maintain its vital capacity unaffected. This comprehensive approach will provide new ventures into speculating the spaces of virtualisation, confinement and liberation in the encounter between the real and virtual worlds.

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INTRODUCTION

We are now in the midst of a global pandemic and our responses to it trigger conditions for reimagining architecture, domesticity, and spaces of public health. In the second year, the systematic thinking has approached the ways in which biopolitics of the pandemics intersect with architecture’s ability to foster humanity and well-being. In that regard, the focus is now on the future projections for care, healthcare, co-living, along with exploration concerned with the future of architectural education in the wake of dramatic change – one that has an unprecedented impact on the ways we learn and teach. One year ago, architecture schools and faculties had to embrace teaching in a way that many had previously resisted, even internally scorn, online.1

Scanning the contemporary scene between the virtual and the real, and thinking about what kind of hybrid ‘infrastructure’ might emerge in the post-Covid age, we always keep turning to the standardisation and organisational matters. Their importance is traditionally recognised in the ability to uncover relationships to a large-scale crisis, only now providing the impetus to implement the plans and schemes which had been bubbling up for some time. Prior to the pandemic, the move towards improving educational “infrastructure” has been oriented primarily to the networks of learning spaces. Classroom-centred learning has become challenged by the expansion of access to knowledge and the emergence of learning spaces beyond classrooms, schools, universities and other educational institutions.2 The social media, for instance, have extended classroom learning by providing opportunities for such activities as collaboration and co-authoring. The question is open regarding how knowledge is produced and disseminated in this context? Based on personal curiosity and experimental endeavours, in combination with freely accessible and mobile technical infrastructure (mobile learning), it is possible to drastically change the nature of knowledge and its dissemination. For example, portable devices ranging from mobile phones, tablet PCs to palmtops have liberated learning from fixed and predetermined locations, changing the nature of knowledge in modern societies.3 Furthermore, mobile devices enabled learners to access educational resources, connect with others or to create content. Rethinking the contemporary performance of teaching architecture can be observed in regards to the lack of practicality of its contents of teaching, but challenges are also logistical, conceptual, political, and even philosophical.
1. TEACHING EXPERIENCES DURING COVID PANDEMIC

The educational landscape of today’s world is undergoing radical transformation with regards to methods, content and spaces of learning. This is true for both schools and higher education. The increased availability and access to diverse sources of knowledge is expanding opportunities for learning, which may be less structured and more innovative, affecting the classroom, pedagogy, teacher authority and learning processes. In the wake of the global scale of meeting between the virtual and the real, we are experiencing a new focal point in the history of learning. Parsing through such unstable and unpredictable educational context, the aim of this research is to demonstrate that the subject of production and transmission of knowledge defies confinement as it morphs across and between media networks, intelligences, logistics and processes. It works to decenter default positions in architectural education.

During the last year, it turned out that the pandemics endowed both a crisis and an opportunity, opening further considerations as to the vital systems of architectural education between confinement and liberation. Experiences are diverse coming from architectural programmes and workshops at European universities and across the United States in online teaching since the Covid-19 outbreak. The Yale University dean, Deborah Berke, has developed a clear strategic approach to architecture pedagogy claiming that educators must teach their students how to create an architecture of the greater good. In Berke’s own words, ‘We, as architects, must be explicit and insistent on addressing architecture’s role in the global pandemic or climate crisis. Some aspects of teaching might help but they are minor.” Berke is interested in how architectural education addresses the real problem that humanity faces, pandemic perceived as a symptom of the global climate crisis: the problem of city in relation to the access to the medical care and infrastructure: and diversity of our profession, and so on. Berke puts emphasis on what we teach rather than how we teach it.

The Dean of University of New Mexico’s School of Architecture and Planning (UNMS), Robert Alexander Gonzales, thinks it is time to reflect on our models of teaching as we are becoming, ironically, more connected than ever since the outbreak. This urgency is prompted by the fact that we are, as he claims, ‘stepping into another era of connectivity.” He does not consider this new democratic connectivity to be the norm but rather that which affects students and will affect students in different ways in the future. ‘We see new ways for students to collaborate across universities (to inhabit and interact), we see new ways for students and faculty to connect, and connectivity with regards to the curricular development (black matters, inequity issues, etc.) that commits to new forms of knowledge and knowledge production (institutions, collectivity,
Architectural historian and Professor of the History and Theory of Architecture at the Massachusetts Institute of Technology, Mark Jarzombek, explains that we tend to introduce innovations in the studio before we fully comprehend current constraints. Jarzombek speculates that most architectural education nowadays, generally speaking, is not particularly a world opening: it does not challenge students to see, hear and think the world differently – through a difference.

With her global teaching experience in Asia, Europe and America, professor and architect Nasrin Seraji stands for architectural education that asks ‘where, why and for whom’. Seraji thinks that we need to revisit Gian Carlo de Carlo’s ‘legitimizing architecture’ in the 21st century when pandemics are only one in the multitude of other urgent questions, such as climate catastrophes, deforming geographies, etc. Digital fabrication is not ubiquitous in spite of all digital equality hype that we have around us. We cannot simply predict the relationship of labour to fabrication. With all this, Seraji concludes that the curricula of the schools of architecture around the world are long overdue for major redraw. She proposes a new pedagogy based on images – understanding of the world through graphic knowledge. This approach is important in regards to conveying students experience through drawings. On the evaluation of ‘assessment versus performance’ and ‘assessment of performance’, Seraji does not see a word performance when educators talk about acquiring knowledge. The word ‘performance’ immediately shifts the idea of the production of knowledge into something that has value. It is easy to see who has learned what through the production and translation of research into critical work that in turn becomes new knowledge. She is concerned that there is a lot of misconception in terms of what it is that we are learning, and what it is that we are producing as knowledge, and how is that being evaluated. In her own words:

The studio doesn’t have to be a studio. The world is a studio for us. We do not only talk about the spaces that are hit due to the pandemic, because there are other ones that are going to come; we don’t even know what is out there for us. That is why we need to consider things inside-out and completely use the capacities that we have: for example, walking as understanding the city and the territory is a very different thing than the slides the student sees in the studio. In that regard, some teaching on Zoom enabled some types of students, and for this reason we need to measure a pulse of different kinds of teaching, and putting them into new types of structures of teaching.
2. THE KNOWLEDGE PRODUCTION

Design studio is conventionally considered to be the arena where subfields converge, overlap, interchange, and integrate in a creative process, setting architectural education framework into the complex teaching-research terrain. As Seraji puts it, ‘it is easy to see what is learned through the production and translation of research into critical work that in turn becomes new knowledge.’ However, Seraji is concerned that there is a lot of misconception in terms of what it is that we are learning, and what it is that we are producing as knowledge, and how is that being evaluated. So far, the research-based teaching has been successful in improving practice, facilitating knowledge production and prioritising the media and technological context. Drawing from these contexts, this presentation evaluates the knowledge production methods by referring to the institutions, collectivity, the culture of communication and design culture frameworks.

2.1. Institutions

Online teaching is not a new format, but with the pandemics it became a ‘global workplace’, to use Simon McIntyre’s term which was introduced in 2007 to announce a whole new era of online learning approaches. The highly transformative landscape of higher education brought about by the advent of technology and its affordances to offer more personalised learning, calls for an action to effectively integrate technology in course design, and improve students’ learning experience. McIntyre’s approach is three-fold: he draws upon specific case studies with their different applications for online learning: from the perspective of an educator and a student as well as regarding the materials they produce in the higher education institution. In his observation, we can see how challenges of online teaching are becoming challenges of archiving, towards a complete online access to the teaching materials. McIntyre believes it would be a growing documentation of achievement, and an excellent tool for reflective learning practices, easily allowing students and teachers to look back at previous work, assumptions, discussions and processes that they have archived. From teacher’s perspective, this kind of online archive is ideal for any discipline where teachers have an active interest in monitoring and assisting in the process of students’ construction of knowledge and abilities. From student’s perspective, it affords the opportunity to easily maintain a record of their learning journey, providing them with a means of critical reflection, and giving them an opportunity to engage in peer feedback.
McIntyre also tested the threefold professional development strategies to provide teaching staff with an opportunity to interact, mentor, and share knowledge with one another, alongside experiencing online and blended learning to effectively meet the challenge of improving the digital literacy of teaching staff and enhancing effective online and blended learning opportunities for students. Namely, McIntyre’s report on the experience of higher education institution at the University of New South Wales (UNSW Australia) have demonstrated how embarking on the path towards mainstreaming online learning opportunities has challenged the low digital literacy amongst teaching staff. Evident among both developed and developing countries, this is a global trend critical in relation to the students’ expectations and their preference for more technology-enhanced learning experiences.

2.2. Collectivity

In the era of connectivity, social networks and social platforms become major venues for the knowledge co-authorship. Diverse social media platforms, for instance, have extended classroom learning by providing opportunities for such activities as collaboration and co-authoring. What happened in reverse is that educators began drawing the principles of collectivity from these practices to integrate it into design studios and read an urban milieu based on the collective intelligence. ‘In the context in which architecture takes part of globally networked and interdisciplinary modalities of practice, and online communication technologies rapidly evolve […], collaborative processes and traditional boundaries of time and space are challenged,’ according to Watson, McIntyre and McArthur. Contrary to Schön’s notion of the designer’s process being ‘…an individual’s reflective dialogue with their work...’ (1985) - communication, leadership in collaboration, and the ability to ‘co-create’ are widely acknowledged as key assets in the skillset of design professionals working in, ‘the new emerging digital paradigm related to art, design, and technology.’ For example, COL responded to this paradigm by embracing a collaborative pedagogy in its global, fully online Master’s Degree in Cross-Disciplinary Art and Design at UNSW Australia. Whereas potentials are seen in types and levels of engagement in the online environment, deficiency is recognised in the communicative limitations of online technology, and their consequent implication upon collaborative teamwork.

Examples are numerous and most recent include the UCL London experimental research-based teaching approach which insists on the students’ preference for more technology-enhanced learning experiences. Instructed by Luke
Caspar Pearson and Sandra Youkhana at the Bartlett School of Architecture, the *Videogame Urbanism* research cluster uses contemporary applications of panoramic imaging in the videogame environments. Their aim is to strengthen the students’ collective learning experience while they are playing the game (fig. 1). The studio investigates urbanism and the future of cities through the use of video game technologies, and is highly adapted to the online teaching format. Popular among students as an alternative model in architectural education, their video games pedagogy is becoming recognised for its experiential, experimental and real-time mode, available in-person. Its educational and practical potential is identified in the collective engagement during the game, in real-time communication with the players while imbuing them with their own logics, politics and value systems.\(^{16}\) The critical moment of this game method is the possibility of experiencing ever more realistic worlds for the student players,

**Fig. 1.** Lily Liu, Yiming Yang, Yuanyi Zhang, ‘Reciprocity’, 2018. Digital screenshot drawing from the two-player split screen videogames. Bartlett School of Architecture, UCL © The Bartlett B-Pro Show Book 2018.
which is, in Luke Caspar Pearson’s own insight, achieved through ‘carefully cultivated virtual spaces.’ This panoramic mode of urban investigation offers designers new ways of speculating the city by allowing players to interact and experience their logics through game spaces. However, Pearson reminds us that ‘these navigable virtual spaces have limited capacities to mimic the natural 360⁰ vision because represented territories in the virtual space are experienced through the defined edges that one cannot transgress’. Although operating at full freedom, the effect of ‘invisible wall’ prevents a realistic experience characteristic of panoramic illusion.

Another example is Stefan Gruber’s recent research-based design exploration at the Carnegie Mellon University. By providing a collective research platform, Gruber investigates alternatives to the traditional studio teaching. His pedagogy is oriented to ‘commoning the city’ and what impact it can have on the negotiation between top-down planning and bottom-up transformation of cities. It is structured around collective case study research on practices and spaces of commoning. The selected method of dissemination—the exhibition—is understood to act as a connector: it enables mutual learning and knowledge exchange. Finally, the production of the exhibition itself presents a huge collaborative endeavour to which many stakeholders contributed. In this way, the exhibition is both the product of the studio research as well as the site and vehicle for new knowledge production. Gruber explains that classes took place in the exhibition during the show in Pittsburgh. On that occasion, students referenced the Atlas and a satellite library on the commons and, in this way, they participated in the co-production of a space that thereafter becomes a site of collaborative learning and exchange, as in a closed positive feedback loop that amplifies itself. This method is instructive in the context of the pandemic teaching as it offers critical grounds to both question and sharpen the agency of architecture, and reflect on alternative and more collaborative modes of design and radical imagination. The educational value created through this commoning pedagogy is the awareness and power of the collective intelligence contained in the self-organisation and use of resources against the backdrop of the escalating health crisis.

2.3. The Culture Of Communication

Firstly, we need to reflect on ways of maintaining an alignment between our theoretical and methodological choices to be able to produce and transmit knowledge in the context of complex entanglement between the real and virtual worlds. Moving more intensely towards a screen and a network as part of their daily workflows, educators no longer operate in depth but only through the immanent surface of operations unfolding, the smooth and functional surface of Baudrillardian communication. This presentation draws on the experience from
the collaboration between Media & Interaction Design from ECAL/University of Art and Design Lausanne and Undergraduate Design Minor and Bachelor of Science in Art and Design programs from the MIT Department of Architecture.

By using virtual communication as the primary form of human interaction, the joint programme has tested a new educational model for a post-pandemic world. More precisely, the team developed a new digital pedagogy that enables students to create networked physical interfaces with limited material resources and tools while being away and stripped from a traditional in-person studio and workshop settings. During the 2020 spring quarantine, a series of open-source software and hardware tools were developed to allow students to build electronic objects from simple and readily available materials. These objects were then dynamically routed and connected to each other to physically augment video chatting and to allow students to extend their virtual reach into each other’s tangible spaces (fig. 2). For the first phase of the project, students had to imagine, design and implement two interfaces, whose design and behaviour allowed and suggested a new form of communication between two people, in two separate places. Notions of remote presence, simultaneous actions, shared experience and telepresence were explored, fundamentally expanding the ways through which we interact and communicate. Nonetheless, these communication devices improved only certain aspects of knowledge production based on logistics, further opening the question of relationships in the knowledge production towards the raise of criticality.

2.4. The Digital Culture

Coming through a hybrid of physical and virtual domains, it seems to me that the future of teaching has never been more closely related to Seraji’s proposal of a new pedagogy based on images; or, more precisely, understanding of the world through graphic knowledge. Namely, over the past three decades architectural processes have been drastically reorganised by what historian Jonathan Crary
calls ‘a transformation in the nature of visuality probably more profound than the break that separates medieval imagery from Renaissance perspective.’ Architecture’s previously stable graphical conventions have dissolved and been replaced with an ever-expanding repertoire of computational mediums. A range of technical processes extracted from the development in computer graphics testifies a continuity in media practices that have generally been regarded as lying outside the domain of architectural practice. Today, with the arrival of augmented reality environments, representational and design experimentation has expanded the set of techniques to integrate advanced virtual production infrastructure (from the movie render and photo editing applications), but also implemented specific augmented reality techniques to supplement the user’s view with images of virtual objects in a real-time mode. In this way, augmented reality enabled mixing of the real-world physical environments and computer-generated virtual objects, work with dynamic systems, motion and virtual cameras, but also visually indicating the type of materials, lighting, context, and other project elements. In this way, it enhanced users’ perceptions of reality, allowing them to gain a complete and real sense of the objects around them.

Enabling high preciseness and real-time mode of presentation, augmented reality is being widely recognised for extending the current limitations of architectural education to increase the understanding, experiment, ease, stimulate and speed up the learning. By superimposing text, graphics, video, audio and other educational reading materials into one’s real time environments, students become active learners, able to interact with their learning environment. For example, computer generated simulations of historical events allow architecture students to explore and learn the details of each significant area of the event site, and even allow students to virtually see through a building’s walls, its interior objects and layout. In this way, pandemic circumstances and the university lockdown will not prevent students from visiting the site. To the contrary, their virtual visit promises to be interactive and accessible to all kinds of information simultaneously. Furthermore, Augmented Reality has revealed the potential to improve the understanding of the spatial structure of a building. The architecture students who have difficulties understanding the 3-dimensional spatial structure and connections between the construction elements can benefit greatly by the Augmented Reality (fig. 3). Moreover, Augmented Reality can provide a supplementary interface to provide epistemic actions that affect the creative design process. In this context, the real time image is used to offer supplementary information rendered in a multimedia format in a way to enable better user experience in different stages of the process. Therefore, with the help of Augmented Reality technology and the real-time image representation, students can manipulate, examine and control virtual 3-dimensional objects from diverse
angles, in a simple and more intuitive way. These new media practices, in their technique and esthetic aspects, stand as the provocative potential regarding how an architect can communicate preliminary concept ideas, and work interactively to remotely present a project in the real-time mode.

**CONCLUSION**

This research has demonstrated that the issue of production and transmission of knowledge defies confinement as it morphs across and between media networks, intelligences, logistics and processes. It advocates for a more deliberate kind of process that build upon, conceptually and materially, the idea of reciprocation between confinement and liberation in architectural education. In the context of collaborative pedagogies, tested for the first time across Australian universities, we have seen how the process of “learning through doing together” has challenged a deeper critical attitude in students, and a reversal of the conventional students’ and teachers’ roles, providing lessons that need not be restricted to exceptional circumstances. In the context of recent media and technology advancements, while the bodily relationship to the works of architecture is lost in the digital sphere, aspects of the educator’s facilitation mediated through the augmented reality environments have become richer and more nuanced. Moreover, the process of guiding conversation through a succession of images and showing juxtapositions that reveal new insights, can give greater context to the architectural work in focus. These changing learning environments seem
to render the students’ immediate environment their temporary studio, as they move through the space, museum or a city. Not only do the hierarchies from our physical world cease to exist. Rather, their accumulation within the digital environments has broken down the hierarchies of knowledge and extended the language requirements with the new notions of remote presence, simultaneous actions, shared experience and telepresence, to be able to communicate between different mediums. Consequently, this context embraced new kind of relationships asking for a revision beyond standard architectural practices.

In the context of my global teaching experience and collaboration with diverse universities from almost 25 different countries and five continents, the challenge appeared to be the nature of communication between diverse platforms and inventing a new specially designed for the architects; but also experimenting with improving interface and networking archived materials. During my teaching and supervision of the Master’s Taught course, the Anhalt Institute Dessau (Bauhaus) in the past semester, the online teaching format has revealed the dimension of internationality of the students’ profiles. Parsing through such an interactive collection of most diverse educational backgrounds, the semester-long diploma project discussions turned out to be an unprecedented accumulation of knowledge, as specifically designed apparatuses for comprehension across cultures. Despite the fact that these students are becoming traveling knowledge transmitters, it seems that the movement and dissemination of the virus annihilates all other movements, including knowledge. Then, it seems that the pandemics endowed a crisis in education, as the recent graduates might not be given the voice upon their return to the home countries after graduation. In other words, instead of acting as apparatuses for thinking through non-hegemonic global exchanges and knowledge production, they are becoming nothing more but a virus circulating in that education system. Aren’t these recent graduates now becoming a voice coming from the struggling communities that are still dealing with the anti-knowledge regimes and restricted information delivery? Are they becoming the self-managed resources with an eye towards liberation and social change?
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6. Ibid.


8. Ibid.


10. Ibid., 4.


COFA Online (COL) is responsible for the development and management of a wide range of fully online and blended undergraduate and postgraduate courses in art and design disciplines at the College of Fine Arts, The University of New South Wales, Sydney. COL develops and disseminates online pedagogy and training and in 2007 expanded its offerings to include a fully online Master of Cross-Disciplinary Art and Design program, with students and lecturers participating from around the globe.


Ibid., 24.


Initiated in March 2020, in collaboration with Media & Interaction Design from ECAL/University of Art and Design Lausanne and Undergraduate Design Minor and Bachelor of Science in Art and Design programmes from the MIT Department of Architecture, students developed a new educational model for a post-pandemic world. See: ECAL x MIT: Here and There (2020).

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PREDNOSTI METODE OBRAZOVANJA ARHITEKATA NA DALJINU U ARHITEKTURI U DOBA POSLE KOVIDA: ZATOČENOST I OSLOBOĐENJE*

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Kapacitet komunikacije i povezanosti izvan uskih ekonomskih, političkih i društvenih dimenzija je uvećan sa digitalnim okruženjem. Da li uslovi zatvaranja univerziteta širom sveta 2020. godine oslikavaju sistem obrazovanja arhitekata kao zatočenost ili kao oslobođenje? Tragajući za odgovorima, mi ne samo što spekulišemo o uslovima koji se trenutno pojavljuju u svetu, već pre oponašamo fazu života koja otkriva uslove koji stvaraju svet. U skladu s tim, ova prezentacija razmatra nove obrazovne kontekste za doba posle KOVID-a i istražuje alternative tradicionalnoj studijskoj nastavi. Ona pruža teorijski uvid u to kako se znanje koristi kao pristup onlajn nastavi i koje su alternativne pedagogije primenljive na fonu eskalacije krize velikih razmera, kao što je pandemija KOVID-19. Ova prezentacija obuhvata niz arhitektonskih programa i radionica izvedenih na evropskim univerzitetima i širom Sjedinjenih Država koji testiraju alternativne obrazovne metode. Ispitivajući odnose u proizvodnji i načine širenja znanja na različitim platformama, nadam se da ću otkriti kako trenutni nestabilan i nepredvidiv obrazovni kontekst regeneriše virtuelnosti, instrumentalnosti i inteligencije kako bi očuvao svoj vitalni kapacitet. Ovaj sveobuhvatni pristup će obezbediti nove poduhvate u spekulisanju o prostorima virtualizacije, zatočenosti i oslobođenja u susretu stvarnog i virtualnog sveta.

KLJUČNE REČI: OBRAZOVANJE ARHITEKATA, DOBA POSLE KOVID-A, Znanje, pedagogije, komunikacija, kolektivitet, kultura dizajna.