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# Manual of best practices for a blended flexible training activity in architecture for higher education institutions



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This volume returns the results of the Intellectual Output 03 of the research project "ArchéA. Architectural European Medium-sized City Arrangement", with the aim of analyzing and restating the state of the art achieved in the field of flexible mixed training in architecture, strongly encouraged by the emergency period of the Covid-19 pandemic. The result is a collection of good practices carried out internally and externally to the ArchéA partner network, in the context of higher education institutions, made possible by new virtual tools capable of mediating teaching and mixed and flexible learning around the disciplines related to the project.

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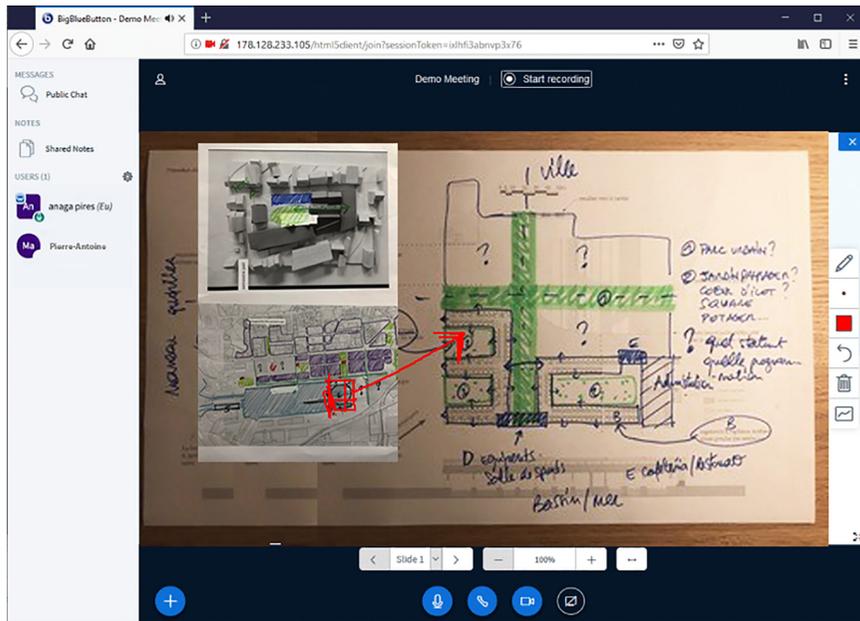
# Manual of best practices for a blended flexible training activity in architecture for higher education institutions

edited by Enrico Prandi and Paolo Strina

**State of Art: the experiences of  
ArchéA's Network**

Pierre-Antoine Sahuc  
**From pencil to mouse, from face to screen. A teaching experience in times of Covid 19**

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**Fig. 01** Sketch exchanged during the covid with my students

2020 became a landmark year in more ways than one. The global health crisis linked to the coronavirus epidemic completely disrupted our behaviour. Travel was restricted to only strictly necessary journeys and these were limited to close to home. Some activities were allowed but social distancing was enforced. In a few days, everything came to halt for an indefinite period of time. In France, the first measures, which began in March, profoundly changed our lifestyles. The country entered into a lockdown phase and this situation had a profound impact on the way we consumed, worked and travelled. We no longer had access to places of culture, educational establishments. As a teacher in an architecture school, these interdictions were the start of a radical upheaval in the way we taught. How could we react to these measures that would take effect only a few hours later? Were we well prepared?

The objective of this text is to bear witness to the developments and difficulties encountered in teaching in the field of architecture during this period. The repeated phases of lockdown suspended social and societal interactions. The face-to-face teaching experience was radically changed for students and teachers. Communicating only through screens turned the very nature of our communication upside down, albeit unintentionally. This troubling observation also meant that gaps in students' learning were amplified. Be it for ordinary or more innovative actions, the human hand has gradually given way to the machine. This phenomenon of the digitalisation of our social interactions began in a very unsettling context. The following testimony does not claim to be an exhaustive account of the way in which all teaching methods were impacted. Its ambition is to describe the way in which tools for

designing lessons evolved with their environment, as I was teaching.

### **The specificity of teaching 'Projects' in architecture**

French architecture schools call on various skilled individuals (architects, engineers, historians, etc.), most of whom are teacher-researchers or professionals from their field. But regardless of the subjects (history, sociology, technical subjects, arts ...), all the lessons available at school had to be disseminated online. However, the methods used are very different when making lectures available online and teaching a project workshop from a distance. The project workshop, as its name suggests, is a place for experimenting with both architectural and urban projects. It is an opportunity for the students to do practical exercises, using a personal approach. As part of the last year of the Master's course, each future graduate must carry out this special exercise. It requires a great deal of independent, regular work along with a lot of commitment and an ability to reason. Multiple conversations with the teacher supervising the workshop give the students repeated opportunities for questioning the given subject. These conversations enrich the project from spatial, historical, technical, theoretical and cultural points of view. The end of semester exam is an oral presentation in front of a jury, with a limited time-frame. As professional architects, we are regularly faced with this type of situation, for example when participating in major architectural competitions.

### **First tests, first failures**

Following the announcements from the government, all of the usual teaching methods were left in tatters within a matter of days. No lessons could take place

face-to-face. Overnight, the shift towards doing everything at a distance changed the way we were organised and our teaching approach. The situation plunged the whole teaching program into a new digital world, which teachers and students alike had to cope with. As quickly as possible, the school's I.T. department got to work, collecting together suitable resources (online server, tutorials, video-conference platforms, software for recording lessons). Along with a few colleagues, we technically tested these solutions amongst ourselves, firstly without involving the students. The objective was to help the students maintain a visual and intellectual connection with the faculty. For most of us, this was our very first attempt at distance teaching.

Quite naturally, the weekly teacher / student meetings happened via channels on the digital platforms. This service made it possible for different members of the community to get together, at no extra expense, in spite of the geographical dispersal of the students. It also had the advantage of offering a centralised space for dialogue, making it easier to communicate (chat, messaging service). However, very quickly, the limitations of certain tools became apparent. Working on the network, waiting for people to speak in turn was laborious. The students' presentations were also difficult to understand, and were interspersed with long silences. The results of trying to transfer this unique teaching process to a virtual network were not as positive as we had hoped. The optimism of the first sessions suddenly subsided. The morale of the students was low. New modes of conversation and communication based on interactivity were needed.

#### **New tools for the students' projects**

In the architectural profession, the development of any project requires a method and any potential project begins with a design phase. This can take different forms, depending on which materials and means are deemed useful by the designer. The range of tools can be as broad and inventive as the person using them wishes. To develop their projects in incubation, the students have several tools and can combine elements which are graphic or language based (such as drawings, models, annotations ...). For the students, the tools of expression and creativity at their disposal were now limited. Isolated in lockdown and feeling under pressure in their student accommodation, they spoke of the lack of essential equipment (a printer, cardboard for making models...). However, most of them were able to do drawings and had a connected computer

or other electronic device. The fact that the usual tools were lacking became a methodological issue. From an educational point of view, the role of drawing is fundamental in architectural and urban design activities. It is a preparatory step, part of a larger process. Intuitive, iterative and fast, it has to be learned personally by the students. However, a sketch cannot be so fluid when it is digitalised. This was a notable observation right from the beginning of lockdown. Once projected onto the screen, the scanned drawings were not easy to interpret visually for other people. This problem was linked to the fact that the students did not master the different scales involved in their images: on the one hand the object drawn on paper (real) and, on the other, the object projected onto a screen (virtual). As a virtual medium, and as the only means of communication, the connected computer called into question the entire creative process.

Gradually, some students stopped using manual drawing, replacing it with digital techniques. There was plenty of time available, which was conducive to lowering barriers to learning. The students wanted to discover new ways of designing. The hardware and applications at hand were not very numerous but were varied: graphics tablets, digital cameras or modelling software. Depending on the scale and the phase of creation, these tools began to constitute formidable allies in communicating about a project. Whether using photo-montage, three-dimensional models or videos, these different media favoured the development of new architectures and accelerated new ways of thinking about space. Projects which at first seemed to be thought through only piece by piece finally became a whole. The perception of the projects was thus more complete and comprehensive. Between each period of lockdown, the teaching team and the students got together to share and discuss their experiences. The pedagogical assessment concluded that the teaching methods had to be completely redesigned to enable teaching at a distance. In a way, the transition to digital tools marked an important step in terms of methodological experimentation for the development of the project. It was the ability of each student to cope with changes and develop an idea that became essential.

#### **Towards a growing development of different practices**

In recent years, architectural and urban issues have shifted towards urban ecology, the environment, and climate change. With the health crisis and the overabundance of connected objects: the trend is

towards new technologies. This abnormal context has quickly shifted digital tools to the centre of our concerns. A way to escape the sad reality of the moment. Architecture is no exception. The growing development of IT tools is already giving architects new possibilities for expression and collaboration. A clever ecosystem for designing differently, making simulations and even thinking about recycling a building before it is built. Depending on the objectives, approaches can be experimental in terms of production or formalisation. Work can now be synchronised on remote servers. Working alone or with a multidisciplinary team of people who are dispersed geographically is now feasible. These smart tools can already control the atmosphere of places we will be living in tomorrow. Virtual reality changes the relationship between the architect and his project, between man and machine. These technologies are popular with new generations of students because they are renewed, interchangeable and interactive.



**Pierre-Antoine Sahuc** - graduated in architecture, he is currently Associate Professor in Sciences and Technics at the National Architecture School of Normandy. In addition, he teaches numerical and graphical tools in the Bachelor of Science in Architecture Degree / specialization "Urban and Sustainable Development" of the Caen University, and the "BIM project management" at the National Center of Art and Crafts (Conservatoire d'Arts et Métiers) in Paris.

In 2012-2017, Pierre-Antoine Sahuc led an education entitled "Atlas of Urban and Architectural Forms » on the analysis of reference projects in European capitals (London 2016, Berlin 2017). Accompanied by a professional graphic designer, this work as a bachelor student led to the development of a guide containing historical maps, analytical drawings and documentary photographs in different scales.

Since October 2018, he is vice-president of the order of architects Hauts de France and this CAUE (Consulting in Architecture, Urbanism and Environment), that organizes events (conferences, exhibitions, formation) for the dissemination of architectural and urban culture.