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ArchéA
Architectural
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Arrangement

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IO3
2021

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

UNIVERSITÀ DI PARMA
DIA Dipartimento di Ingegneria e Architettura
ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA
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Editorial secretariat
c/o Università di Parma
Campus Scienze e Tecnologie
Via G. P. Usberti, 181/a
43124 - Parma (Italia)

Email: redazione@famagazine.it
Email: ArchéA@unibo.it
www.famagazine.it
site.unibo.it/ArchéA/en

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.

ArchéA. Architectural European Medium-sized City Arrangement

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edited by Enrico Prandi and Paolo Strina

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Analisys of the Best Practices

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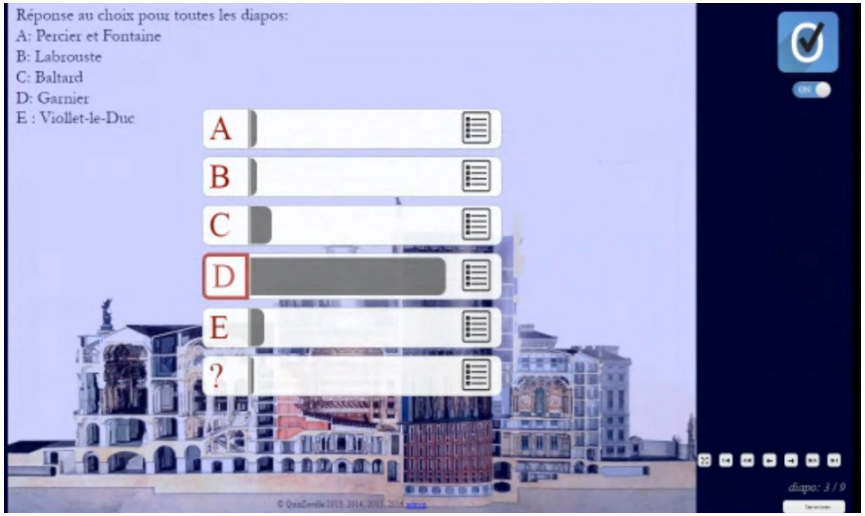

Fig.01 As soon as the students have responded to the quiz on their telephone, the result appears on the screen. Screenshot of a lesson with Camille Bidaud whilst using Quizzodle

Fig.02 Recording the slideshow and the webcam simultaneously allows the teacher to draw on the board during the lesson, even when at a distance. Screenshot of a lesson with Camille Bidaud via the Université de Normandie's webTV

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Camille Bidaud

Distance teaching of the history of architecture and urban design?

Higher National School of Architecture of Normandy, France

Since at least the 1990s, the educational sciences have generally criticised the format of lectures[1] and have instead encouraged active teaching methods[2]. However, in France, lectures without teacher-student interaction remain the most common teaching format in many subjects. The lack of change in this situation can be explained by the fact that this format is more economical in terms of staffing rates. In addition, the teaching of certain subjects, such as history, is not really conducive to work based on experience and collaboration. However, even in the context of a lecture, some active teaching exercises can be put in place by teachers who are interested in trying new approaches. The main obstacle is then the lack of training in teaching and educational sciences for the teachers in France. Having worked for nearly a year on an ANR Program (*Agence Nationale de la Recherche,* a national research organisation in France) on the hybridisation of higher education courses on bio-geo-sourced resources for renovation and construction, my research and training in this context encouraged me to think in this direction.

Since the beginning of my teaching career, during lectures, like many colleagues, I have tried to diversify the course materials (using slideshows but also videos, drawings on the blackboard ...), as well as interactions with the students (open questions, quizzes) and various types of exam (including writing and drawing, vocabulary, timelines, etc.). Large groups of students make discussion difficult, and questions, like answers, usually come from students sitting on the front row.

Even before lockdown, I included small exercises during the lessons, initially on paper, then quickly switching to digital. Quizzodle is a small, free software that allows you to carry out online multiple-choice quizzes: the students connect using a QRcode via their phone or computer, the quiz is proj[3]ected on the screen in class, then they have a fixed time to answer on their phone. The answer then appears just afterwards in order to be able to debrief (fig. 01) before moving on to the next question. At the end of the series of questions, the automatically corrected results are sent to the teacher in the form of an Excel spreadsheet. This tool is extremely useful in my teaching as it includes image recognition exercises. Indeed, it can be difficult to know if the students recognise the buildings or cities mentioned in class. Thanks to Quizzodle, the students and I can check on their knowledge of the main references. On the other hand, it requires some preparation beforehand from the teacher, and also technical ability, especially when using pictures. Another advantage is that it creates a short, fun break of 5 to 10 minutes during the lecture, which helps to regain the students' attention.

However, the complications brought on by the pandemic obliged me, like all of us, to review my teaching methods. I am fortunate to be in a school where the IT department is very proactive. They gradually provided us with suitable open-source digital tools, hosted locally by the Université de Normandie or directly at school.

During the first lockdown, the school gave us access to the Université de Normandie's webtv. The teacher can record his voice over a slideshow. He can also use his webcam. After recording the lesson, it is also possible to add text, opinion polls, or links at specific times. When the lesson is finished, students can watch the lesson by streaming it on the platform. The main advantage of this system was that it was available as soon as the school had to close down, allowing continuity in teaching from the outset. Another advantage was that regardless

of the quality of the internet connection of the teacher or students, the recording and viewing of the lesson was still possible. Being able to film myself in addition to using the slide show allowed me to make drawings on a whiteboard, encouraging the students to take notes in the form of diagrams (fig. 02) and additionally a way of maintaining some form of human contact for the students who were isolated at home.

Despite the accompanying quizzes, the short videos attached to the lesson and the students' satisfaction with this teaching approach, I was not happy with the total lack of interaction. This meant not knowing whether students were following or not, not having any questions, and not knowing when their attention was waning. According to studies, during a lecture without active teaching methods, attention drops after 20 minutes, with shorter and shorter cycles as the lesson continues[4]. So, when students are alone in front of a screen it is quite possible that the drop in attention will be that much faster. In addition, the feedback received by the school on the lessons via webtv was that many students took advantage of the recorded lessons to pause or slow down in order to take as many notes as possible, creating a significant work overload. To limit this problem, teachers would have had to drastically shorten the duration of their lessons, and limit the number of examples given, to prevent the students from making lists of notes without taking any critical distance. In the absence of other solutions, the webtv was therefore initially good in terms of pedagogical continuity, but not satisfactory in the long term.

During the first lockdown, using the Moodle allowed me to create quizzes and so to keep some of the benefits of using Quizzodle. For me it was also a question of getting started with the assessment tools to prepare for the final exam. Moodle is an open-source online education platform used by many universities and schools. Extremely exhaustive, it allows for links between the different services implemented by the IT department (web TV, the Bigbluebutton videoconferencing system, etc.) as well as providing a tool for carrying out the final exams in a given time or for some self-correction exercises (written text, sending documents in, multiple choice questions, gap fill exercises, drag and drop, etc.), or written work which can be collected by the teacher, with an added plagiarism detection tool (via the plug-in Compilatio).

However, the final exam could not be like the one normally given in school exam conditions: all the students having access not only to the internet, but also to their lesson notes and all their classmates, it was not really possible to ask questions on the course content. Similarly, any graphic exercise posed potential technical problems (not insurmountable but time-consuming and stressful for the students).

At the start of the 2020-2021 school year, everyone had to wear masks in school but teaching could be done face-to-face and then later as a combination (both face-to-face and distance teaching). Whether using the Moodle videoconferencing system or the school's webtv, this combination had very obvious limits: the students following at a distance could not speak. Indeed, unless the teacher had a second computer, allowing him or her to follow the chat at the same time (further complicating the teaching sessions in the amphitheatre), it was not possible for the students following from a distance to participate, creating an obvious inequality. In addition, the many technical issues were quite discouraging.

From November until the end of the school year, the lessons were all done at a distance. I then made the choice of videoconferencing via the Moodle, recording the conferences for those who might have technical or medical problems. Although the students never turned on their cameras, the chat allowed for a minimum of interaction, and the equivalent of the first row was always ready to answer or to ask questions.

I tried reusing the Quizzodle, but this required the students to have 2 screens, and moreover the quality of the screen sharing did not allow the exercise to be carried out easily. I therefore resumed the quizzes outside of the lesson via Moodle (fig. 03).

In order to take into account the attention span of the students and to encourage them to think for themselves, and also faced with the technical difficulty of showing them video extracts during the videoconference, I decided to ask them to work independently before the lesson, thus reducing the duration of the lecture. Before each class, students had to watch a documentary (previously chosen from the Arte architectures series) and prepare answers to a questionnaire sent beforehand. Each class session therefore began with a "discussion" on the questionnaire. Although no one put their microphone on, they could write their answers in the chat. I then discussed the answers which served as an introduction to the class, and kept referring back to the film throughout the session. In addition to using the chat, I also used the polling tool to maintain a minimal level of interaction. However, without being able to see the students, it was still difficult to perceive their level of fatigue and attention.

Moreover, one issue which is relatively little discussed but is essential is that of the required working conditions for the teacher, just as for anyone working at a distance. The teacher must have: a computer with two screens (one for the slideshow, the other for additional services like video feedback, using the chat, recording tools, etc.), a webcam, a good quality microphone, a good internet connection and a calm and neutral space to work in.

Most of the software or platforms listed here are relatively easy to access for students participating in the activities. But for the teachers, the multitude of various tool settings makes it difficult to get started without any prior training, thereby limiting their use.

The methodological transformations required when implementing active teaching methods are not all compatible with distance learning. However, mastering a multiplicity of tools makes it possible to maintain teaching which is relatively qualitative and diversified, whatever the conditions. The use of these tools remains, however, time-consuming and a lot of motivation is required to train oneself on how to use them and to imagine the specific applications to one's teaching.

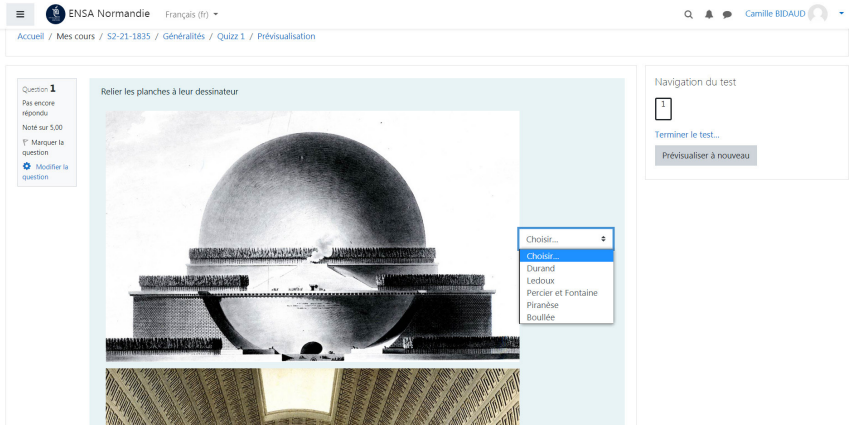

Fig.03 Different self-corrected quizzes can be created with the Moodle. Screenshot of a quiz created by Camille Bidaud on the Moodle.

Notes

[1] Altet Marguerite, «*The university lecture: a scientific-pedagogical discourse without articulation teaching-learning* », Recherche & formation, 1994, n ° 15, pp. 35-44

[2] Slavin, Robert, « *Research on cooperative learning: consensus and controversy* », Educational leadership: journal of the department of supervision and curriculum development, 1990, pp. 52-54

[3] Regnier, Nicolas, «*Instant response systems for active pedagogy*», 21st French Congress of Mécanique, August 26 to 30, 2013, Bordeaux, France

[4] Bunce Diane, Flens Elizabeth, Neiles Kelly, «*How long Can Students Pay Attention in Class? A Study of Student Attention Decline Using Clicker*», Journal of Chemical Education, 2010, n ° 87, pp. 1438–1443