

Digital *Capriccio* and Mobile Apps, Future of Teaching in History and Theory of Architecture

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The paper intends to introduce the capriccio as an artistic expression in the history of architecture and arrive at the digital capriccio as a teaching tool in courses of Theory and History of Architecture. Afterward, the practical part of the teaching experience will be described where students are asked to use software packages and mobile devices apps in order to give a response to architectural concepts through digital *capricci*. Students are requested to produce their collages, creating a digital composition of simulated spaces that can be obtained by combining fragments of notable buildings or composing together more abstract forms, with the aim of express the concept behind an architect, a style, or a movement. The experiment follows the theory by Walter Benjamin of the “art in the age of mechanical reproduction,” bringing architecture to the same concept of being a simulacrum of the source, and intends to respond with innovative tools to the call for action in architecture teaching. The final part of the paper will simulate an exercise held in the class environment bringing to the reader to have a similar learning experience than the students.

INTRODUCTION

The courses in History and Theory of Architecture have several difficulties nowadays. First, the challenge to engage students' eager to new trends on topics related to the past. Second, to show them how to develop a critical approach and a global vision in order for them to have a deep understanding of the progress of architecture all over the centuries and decades. Another problematic aspect is catching their attention among all the digital devices they are distracted by. In the end, the ambition behind these courses is to not only allow students to absorb the main concepts taught but also to make them able to select and elaborate a strong visual/conceptual background to use in their creative process.

In order to bring the teaching methodology of the History and Theory of Architecture to a further step, the authors (both professors of history courses and design studio in institutions based on the American system), introduced the tool of the digital collage or *capriccio*. This visual expression combines the vision of the past with a critical thinking of the present and a following creative representation for the future, giving a new approach to the traditional pedagogical base applied in History and Theory of Architecture courses.

The first part of the paper will present briefly the evolution of *capriccio* to collage and photomontage to arrive to the digital *capriccio*, in order to bring the reader to a deep understanding of why and how this tool is the proper one to be used in History of Architecture course and what its combination with mobile apps bring to. The second part will describe the practical application of the tool in the class environment.

CAPRICCIO

The term *capriccio* (pl. *capricci*) appears for the first time in the “*Vocabolario della Crusca*” (1612) as a “fantasy, thought, whim, or invention.”¹ An artistic expression applies to both music and painting. Its pictorial origin has the root in Francesco Colonna's book “*Hypnerotomachia Poliphili*” (1499).² During the XVIII century, *capriccio* becomes an artistic genre of a painting depicting imaginary landscapes mainly created by the combination of ancient temples, palaces, churches, or buildings.

Giovanni Battista Piranesi, in his engraving, created *capricci* in a peculiar style combining archeological fragments in a perfect tridimensional setting.³ Other artists such as Canaletto, Giovanni Battista Tiepolo, Gian Paolo Panini, Marco Ricci, through paintings, created imaginary scenarios using the dreamlike juxtapositions of Roman ruins.⁴

Although *capricci* did not have any didactic purpose, they aimed to be a stimulus and wanted to enhance the emotional reaction of the viewer. One interesting aspect, at that time, was the perspectival tridimensional perfection (rightness) of the composition that brought to the deep illusion of a real landscape.⁵

FROM MANUAL TO ANALOGICAL

In most recent times, the idea of the composition of a scenario made by fragments that come from different sources became more explicit, taking the form of the collage, sometimes with more allegorical meaning than in the initial *capriccio*. Picasso is recognized as the first artist to use this technique, starting from his “Still-Life with Chair Caning” (1912), where the scrap piece of the furniture takes vital importance in the artwork.⁶

If on one side the collage continues to be a specific technique preferred by some artists for its strong materiality (Kurt



Figure 1. "Roman Capriccio: The Pantheon and another Monuments" (1735), Giovanni Paolo Panini. Source: Indianapolis Museum of Art.

Schwitters, Mimmo Rotella), on another side, this method of representation/interpretation, thanks to technological improvement, takes a more sophisticated direction developing in the photomontage where the method of production is made by the more advanced layering of photo-frames or by the simpler pasting of photos-fragments.

The photomontage is an artistic work making use of the photography "a composite photographic image made either by pasting together individual prints or parts of prints, by successively exposing individual images onto a single sheet of paper, or by exposing the component images simultaneously through superimposed negatives."⁷

In this way, the *capriccio* finds its modern analogical version perfectly acting in the Era of the technical reproduction described by Walter Benjamin. The moving from painting to photograph brings, in fact, from the cult value of art to the exhibition value of the work designed for reproducibility.⁸

This new form of visual communication, in the same way as the *capriccio*, is based on the re-location of single elements on a different background, but far from that perfect perspectival simulation, it is characterized by the use of different scales and the contrast of forms and color.⁹

Several modern movements (Dadaism, Constructivism, Futurism) made use of the *capriccio* to communicate their innovative ideas with the maximum impact.

At the beginning of the XX century, both collage and photomontage are introduced in the Bauhaus didactic structure as tools in the teaching methodology. Johannes Itten, in his introductory course, promotes the use of the collage together with plastic studies in composition in order to introduce students to the knowledge of materials. Abstract geometric 2D combinations of conventional materials intend to develop the sense of touch and subjective feeling.¹⁰ The visual experience is instead enhanced in the course of Photography by László Moholy-Nagy, where students are invited to explore new artistic possibilities of the media: negative effect, double exposure, double printing, enlargements, microphotography. The result of this practice is evident in some collage by Moholy-Nagy and by the artistic work of one of his most famous student, the artist Marianne Brandt.¹¹

This visual composition based on photo or directly on paper combination has demonstrated the ability to adapt also to more recent scenarios, as in the case of *avant-garde* architects and artists of the 60s. In 1956 the Exhibition "This is Tomorrow" opens at the Whitechapel Art Gallery in

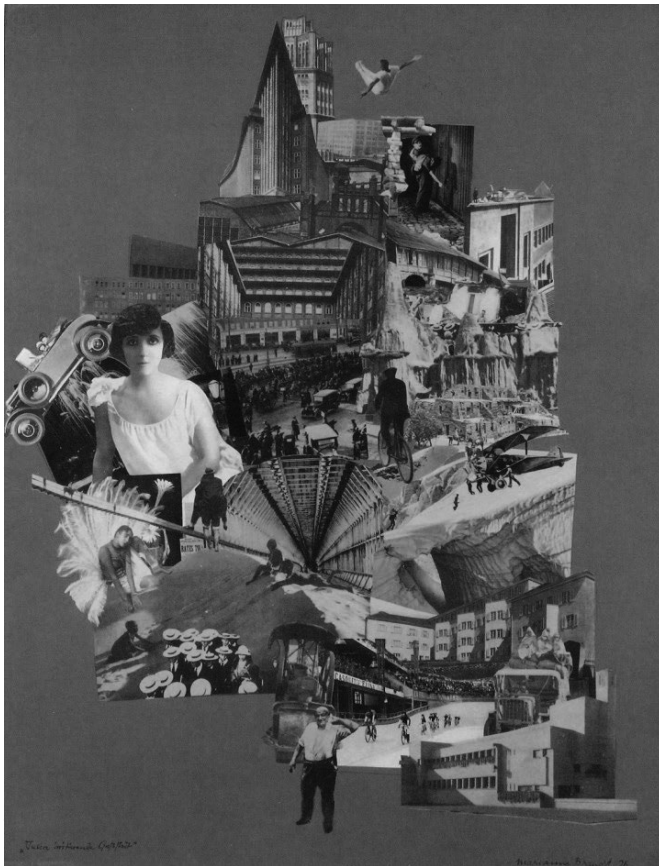


Figure 2. "Our Unnerving City" (1926), Marianne Brandt. Source: Galerie Berinson.

Jesse Reiser - Nanako Umemoto, Emilio Tuñón - Luis M. Mansilla, Gordon Kipping, demonstrates the flexibility of the method of representation and its ability to adapt to ICT. The *capriccio*, started with the traditional technique of painting and engraving in the XVIII century, modified by the analogical phase of the photography in the XX century, moves forward in the era of digital computer tools of the XXI century, quickly adapting and making use of graphic software.¹⁴

The architect Enric Miralles made the digital photomontage not only a fundamental element in his practice but also an essential tool in his didactic experimentation.¹⁵ In his architecture course at the Staedelschule of Frankfurt, after the completion of the design process, the students were asked to replace the entire projects or fragments of it in a different location. For Enric Miralles, this process could bring to a more personalized architecture and avoid stereotypical models.¹⁶

DIGITAL CAPRICCIO AND MOBILE APPS IN COURSES OF HISTORY OF ARCHITECTURE

Contemporary teaching in History and Theory of Architecture is claiming for profound changes. Students born between 1990 and 2000 have distinctive personalities and strong abilities to acquire information but are hard to focus and reluctant

to read.¹⁷ The old debate on integrating studio with history teaching or leaving the two methods independent, in place since the creation of the schools of architecture, cannot be discussed anymore.¹⁸ Several teaching experiences making use of creative interactive methods of critical understanding (interpretative model making, virtual reality, design activity) have demonstrated to be necessary best practices in the teaching of History and Theory of Architecture to new generations. The creation of digital collage by the students can be one fundamental tool as already demonstrated by the experience of Guido Cimadomo at the Escuela Técnica Superior de Arquitectura de Málaga (Spain) that developed this kind of exercise "to encourage students to reflect on the construction process (...) and to be aware of the compositional elements of a church."¹⁹ In an architectural world dominated by renderings, complexity is alienated by the atmosphere, dream, emotion, and fiction, while in the collage, the stratification leaves still margin for abstraction, critical thinking, intellect, de-contextualization.²⁰

Moreover, the digital *capriccio*, together with CAD techniques and parametric/algorithmic software, seems to be the natural evolution of the sketching method traditionally used in courses of History of Architecture, translating the *disegno* in new tools adapted to the IT revolution.²¹

The additional combination of the digital *capriccio* with mobile apps represents a profound innovation in the field, making mobile phones and social media an integral part of the teaching-learning process. The *capriccio* reaches its entirely contemporary expression adding the instantaneity of the sharing to fragmentation and juxtaposition.²²

In a learning body more and more globalized, characterized by diversity and multiethnicity, with entirely different cultural backgrounds, the creation of a common ground based on the use of mobile apps and the active participation in social media represents an efficient platform of two ways teaching/learning between instructor and students that bring to an immersive critical understanding of the history of architecture and its conceptual application in the creative realm.

The shift to digital devices and mobile apps also creates a new category of value identified in the power of instantly producing and immediately sharing, something the new generation of architects has to be familiar with.

HISTORY AND THEORY OF ARCHITECTURE AT THE AMERICAN UNIVERSITY IN DUBAI

The pedagogical example presented in this text is part of the academic activity of the authors at the American University in Dubai (AUD), within the Department of Architecture of the School of Architecture, Art, and Design.²³ Since the AUD is an institution with an American vocation and has the accreditation of the North American National Architectural Accrediting

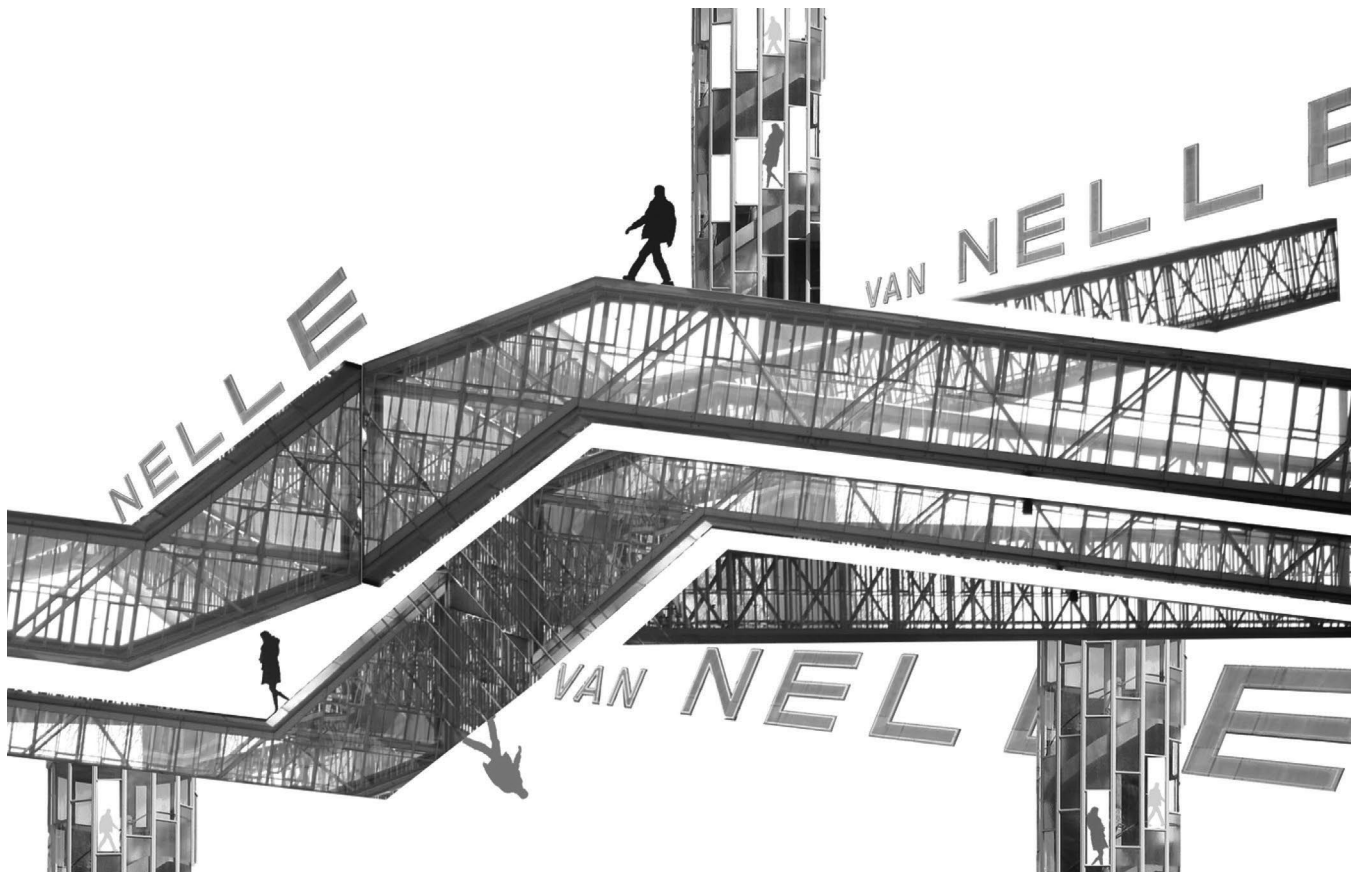


Figure 3: Weekly collage titled “Factory Van Nelle” done by the students Mobeen Ahmed and Mansoor Alharbi.

Board (NAAB), the entire degree of Architecture follows the guidelines of the architectural education system in America.²⁴

The authors have taught several subjects within the area of theory and history at the AUD, specifically “History and Theory of Architecture II/III” and “Theory of Architecture.” However, this example is the result of coordinated teaching experience between the sections of both professors of the course of “History and Theory of Architecture III” during the Spring semester of the 2018-19 academic year.

The contents shown in the course follow the traditional teaching content of contemporary architecture and have a short span that begins with the Industrial Revolution in the early 19th century and continues until the first decades of the 21st century. Due to this temporal distance, the content is structured into broad themes that encompass one or more movements or architectural concepts along with particular lessons for the great masters of the architecture of the last century.

The course “History and Theory of Architecture III” is divided into two parts that are different in terms of methodology but complementary in terms of content. The theoretical part and the practical one were divided in turn into classes whose material was prepared exclusively by the teacher and

others that required prior preparation also by the student. Similarly, the practical part was also divided into two types of exercises. One of them was a group research work on a subject that, in agreement with the teachers, expanded part of the general content of the course. Moreover, the other of them, whose experience is the main subject of this text, was the original production of digital collage that complemented and summarized the theoretical part.

The final objective of the collage was the graphic representation of a key concept of a theme or architect analyzed during the theoretical part. To that end, the student had to compose a fictional space (interior or exterior) obtained by combining fragments of diverse origin and nature. For this, each student could help himself with whatever fragments he considered appropriate, as long as the final result was consistent with the chosen concept.

In order to further synchronize the theory and practice part, it was proposed to carry out two types of collages, depending on the theoretical content. When the lesson included several essential topics or concepts, the students had to produce a collage during the following week. Thus, the students had some time for reflection both to understand the content and to select the final concept to represent.

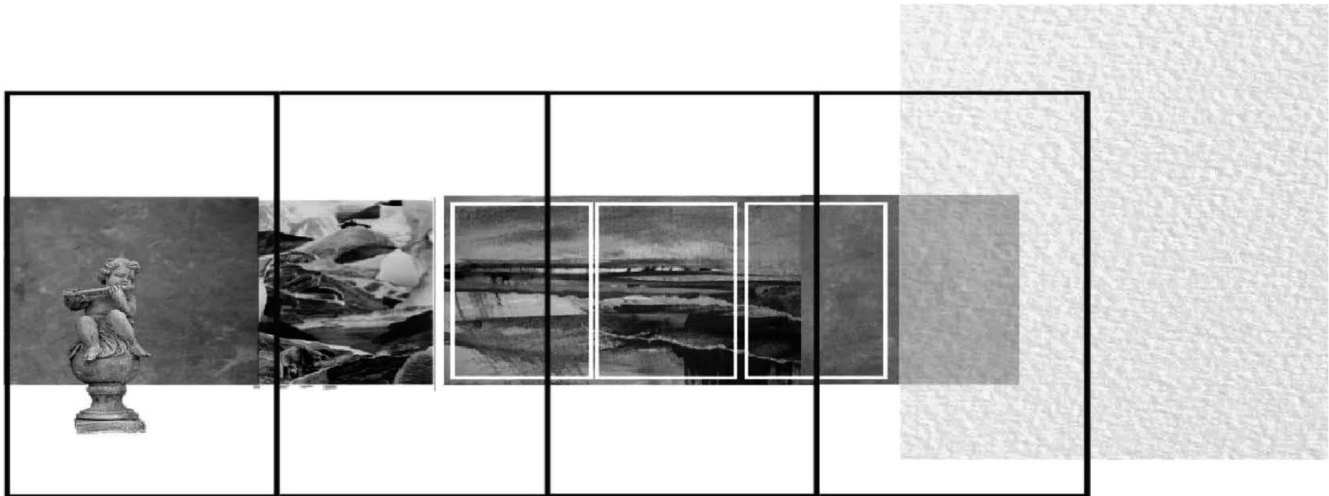


Figure 4. Collage done the class time for the lesson about “Mies van der Rohe” by the student Nadine Ammar (@nadine_7038).

On the other hand, when the lesson included a clear and robust theme or concept, students were asked to produce a collage on that issue during the last part of the class (making use of the last 20 minutes). In this case, only the use of their mobile phones was allowed to make the composition. Correctly, they could only use two (free) applications to manipulate the base images: Photoshop Mix and Photoshop Express. As expected, unlike the previous collage, the delivery of this exercise was digital and open. Therefore, each student should use their personal Instagram profile to publish their collage before the end of the class, always correctly labeled with a series of pre-established hashtags.

DIGITAL CAPRICCIO AND MOBILE APPS

Both experiences with the digital collage not only threw surprising proposals but also provided a powerful stimulus for the students that increased their commitment to the course. However, in this text, it has been decided to develop only the in-class assignment, since the update of the collage tool through the simple applications of the mobile phone, and its use within the teaching of the History and Theory of Architecture, is more novel and attractive as a pedagogical methodology. Besides, this experience is more powerful to call for action as the topic of the conference requested.

To show the simplicity and immediacy of this type of exercise, the authors have chosen to describe the process of composing a collage using the applications mentioned above. Therefore, the reader is proposed to download both applications, Photoshop Mix and Photoshop Express, and follow the steps described below.²⁵

The first step is the identification of a single concept to work with. Since this experience lacks the theoretical part to complement, it is proposed to use a simple and open theme so that the reader can experience the exercise: the creation of a composition that suggests the fluidity and opening of common interior space in the work of Mies van der Rohe.²⁶

Once the subject is determined, the next step is the general preparation of the image. At this time, it is recommended to make a quick mental outline of the final image and, in this case, Mies’ own collages can serve as a role model. For this reason, an example of composition can be a frontal perspective of an interior space in whose depth different objects accumulate and have a longitudinal and continuous opening as the background of the scene. It is recommended to start at the background of the scene to help structure and scale the rest of it. Therefore, the next step is to go to the internet and download a background image to the phone.

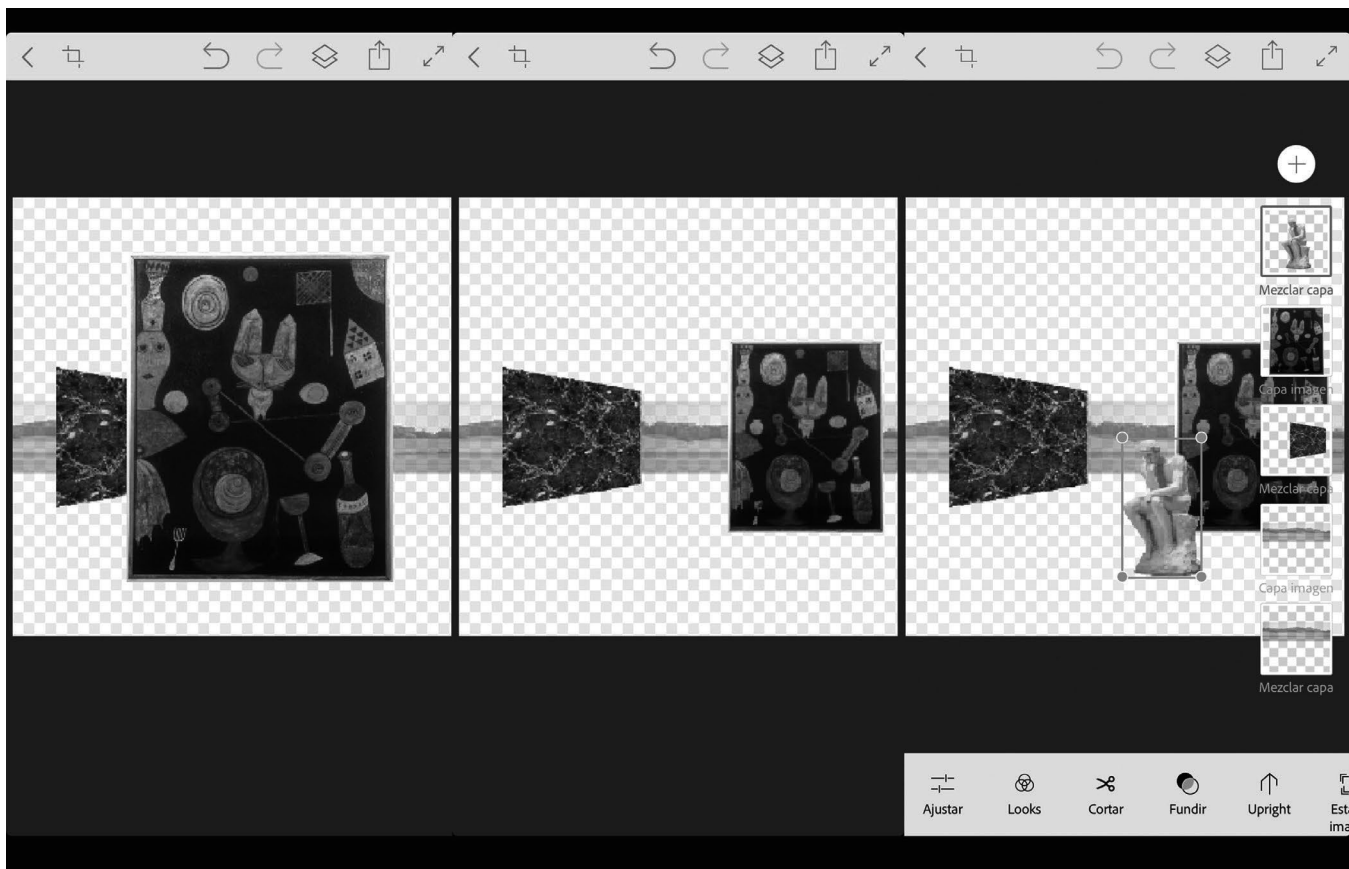


Figure 5. Different steps to build a digital collage using the mobile apps.

After the image is downloaded, the reader must access the Photoshop Mix application and start a new project. Since the Instagram format is square, it is suggested to create a custom canvas with that shape. Once the blank canvas is opened, the background image is added as a new layer. The image usually conforms to the whole dimension of the canvas by default, but as a longitudinal window is required, it can be trimmed using a rectangular shape, and its appearance and opacity can also be adjusted. Then, the final image can be scaled and moved to its final place on the canvas.

The next step is to add a series of elements that give perspective to the composition and allow the viewer to perceive the fluidity and openness of the space sought. For example, it can be added a wall with some perspective. Once again, if graphic material is not available on the phone, the reader must go to the internet to download a texture to work with. In this case, once downloaded, it must be opened with Photoshop Express since the Photoshop Mix does not contain the command for its transformation into perspective. Again, the image is inserted as a new layer on the canvas without resizing it. Having added perspective to the image, the white background has also been added by the app, so it must be trimmed before being used in the scene. A simple way to do this is by using the auto crop mode of Photoshop Mix. After

that, the reader only has to adjust the appearance and scale and then, place the wall in relation to the background and the general scene.

Henceforth, as many elements as desired could be added to the scene. To do this, and especially to continue with the collage described in this text, it would be enough to repeat the same actions and commands performed so far with the different items that the reader desire to add to the scene as a painting, a sculpture, or a person.

Finally, the scene should be saved on the phone and published on the Instagram profile with a specific hashtag. In the case of the subject History and Theory of Architecture III, the hashtag chosen for this exercise was *#MiesCollage*. The reader can decide to apply the same hashtag of the exercise done in class by the students and find his collage published together with the work of them.

CONCLUSIONS

The method has still to be tested and improved, and the feedback coming from the conference session will be supportive in order to advance. However, certain considerations are already possible by analyzing the result contained in the Course Evaluation Files.



Figure 6. Students composing a digital capriccio during class time.

The comparison between the recent teaching experiences led by the authors and the previous three years of teaching in History and Theory of Architecture III proves the initial success of the method. On a scale from 1 to 5, students involved in the digital capriccio experience think they are better at critical thinking as a consequence of the course, with an average of 4,17, in comparison to a result of 3,57 for the previous years characterized by the use of traditional methods and assignments. Participation increased from 3,88 to 4,38. Motivation moved from an average of 3,46 to 4,4. Although the method was completely new for the students and never experimented before in this type of course, the question “the instructor chose assignments that were appropriate for this course” obtained an average of 4,53 against a previous score of 4,07. Overall the course always overpasses the department average.

These encouraging data and the positive comments of the students make the authors think about future methods of assessing the course, based on specific surveys, that can help for farther developments. Not only the perception of the students has to be considered but also the effective benefit and improvements of the learning body.

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