

# Fast architecture, slow architecture. Learning through cross-curricular workshops

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We are currently in the midst of a change of educational paradigm. Coined a rEDUvolution by María Acaso, it is marked by the proliferation of active methodologies and an update of educational proposals to better adapt to the characteristics of 21st-century students<sup>1</sup>. Questions inevitably arise. What happens in architecture? Is it necessary to update the way design is taught and learned? If so, how?

In this regard, I would like to share a teaching experience conducted in Projects, the innovative proposal for which emerges from combining different paces of work and design thinking in order to learn design methodology.

We refer to the conventional way of teaching this subject as 'slow architecture', alluding to the slow pace at which exercises are done over several weeks. This 'slow design' gives more time for reflection and the detection of architectural needs, for trial-and-error processes to take their course, for suitable solutions to be formulated, and, in general, for a more conscious progression towards the final product.

On the other hand, we propose inserting 'fast architecture' through specific short-length workshops, in the belief that 'rapid design' enables us to visualize the complete design process and find suitable quick solutions on a limited time scale. This approach produces a feeling of success among the participants and makes it possible to chart the development of projects through immediate constructive feedback.

This paper will give us a better understanding of the intentions and objectives behind the subject and its workshops, of the results obtained, and of the benefits of this methodological innovation.

## Justification

The initiative to make adjustments in the paces at which we work is the result of an adaptive and empathic process carried out with the students we currently have in the classrooms. They belong to the so-called Z Generation. The secret to understanding this generation involves "the four I's": Internet, Irreverence, Immediacy and Uncertainty. (In Spanish, all these nouns begin with

the letter I). As the first generation that is 100% digital and hyperconnected (via the Internet), it raises questions and casts doubts about the authority of previous generations (Irreverence) and lives in a world in flux that upholds superficial values (Uncertainty), where it seems that the speed of the Internet extends to all facets of life (Immediacy)<sup>2</sup>.

Experience in executing architectural projects tells us that a good design requires a process of reflection; this process is repeated, and the initial idea is refined, eventually becoming a functional and emotional product. In this regard, the 'fast architecture-slow architecture' strategy is based on a need to obtain quick results, although without prejudice to the maturation time required by architecture projects.

Future employment for members of the Z Generation is uncertain. It seems that continuous mobility and the need for life-long learning will be two constants of their professional career. This means that they will decide on their final goals as they go along, developing the skills necessary to deal with the projects of most interest to them.

Continuous learning will also be a requirement for jobs, according to a study carried out by the World Economic Forum<sup>3</sup>. In table 1, we can see how 'active learning and learning strategies' goes from fourth position in 2018 to second in 2022.

Creating a cooperative learning environment is a positive response to a generation that engages in collaboration naturally (we only need to take a look at the companies and platforms that are emerging with the generational change, in which use prevails over ownership: Uber, Blablacar, Airbnb, MOOC, open source, etc.). As a result, we should look for ways in which collaborative work can take place in the classrooms, considering that:

"jobs are not understood without collaboration. Half of the workers in the prestigious Forbes 500 ranking work in teams and, as predicted by the World Economic Forum, in 2020 a majority of us will be professionally involved in open collaboration systems"<sup>4</sup>.

Finally, the flow theory proposed by Mihaly Csikszentmihalyi is applied in an attempt to increase motivation in the students<sup>6</sup>. The author compares two variables: the level of challenge posed by a certain activity and the level of talent that the person has, in relation to the proposed challenge, encompassing attitudes and aptitudes. He maintains that the person will perform the activity smoothly as long as the level of challenge is balanced with the level of talent.

This state of flow, which the author likens to states of enjoyment and happiness, has some common characteristics in all those who experience it: (a) engaging in a challenging, goal-directed, rule-based, skill-requiring activity; (b) combining action and consciousness, so that we lose the notion of ourselves as beings separate from the

action we are performing; (c) setting clear goals and getting immediate feedback; (d) concentration on the current task, acting effortlessly and forgetting everyday worries and frustrations; (e) an associated feeling of control over the actions carried out, or rather a lack of concern about losing control; (f) a sense of time being transformed, seeming to pass more quickly.

When both variables, challenge and talent, are not in balance for the person engaging in the activity, the latter is no longer in this state of flow and may become bored (if the task is too easy) or suffer stress and frustration (if the task is too difficult for their skills and attitudes). We see this represented in [Fig. 01].

This theory is well understood in video game design, where the initial levels are designed to make you gain skills and abilities that will enable you to take on increasingly difficult challenges in later levels. In the case of architecture and design projects, it is also necessary to regulate the level of the proposed challenges, gradually increasing them according to the talents that the students develop. Keeping focused on the task is the way to enhance one's talent. The operation is dynamic, since we do not enjoy doing the same thing at the same level for a long time. In this regard, flow activities lead to growth and personal discovery, improving the person's self-esteem.

## Intentions and objectives

This innovative proposal proposes an alternative method for learning how to design, complementary to Projects, the subject already included in the educational curriculum. The following objectives have been drawn up for the new methodology, grounded on the above-mentioned justifications:

Proposing design scenarios with quick results that satisfy the student's need for immediacy. Generating teamwork environments within collaborative contexts. Developing transversal skills necessary for the student's professional future (initiative, cooperation, leadership and communication). Improving the student's ability to concentrate. Providing immediate feedback so that the student is aware of their own learning and progress. Promoting experiential and constructivist learning, where the student plays an active role in the development of their skills.

## Methodology

The methodological basis that serves as a guide in organizing the cross-curricular workshops is Design Thinking. Although this was popularized by the article by Tim Brown that was published in Harvard Business Review in 2008, it in fact condenses the ways in which designers and architects have been working for years.

Design Thinking makes it possible to search for creative solutions to complex problems by focusing on the user's needs, thanks to a process structured in five phases: empathize, define, ideate, prototype and test.

**EMPATHIZE:** Observing and understanding the user for whom you are designing is a fundamental phase of the Design Thinking process. Interacting with them, immersing yourself in their close environment and understanding their needs gives information that is very useful for this process.

**DEFINE:** This stage involves selecting the information collected during the empathy phase and identifying what gives added value. Therefore, it establishes a point of view that will help us to obtain an innovative result.

**IDEATE:** Generating a wealth of ideas and options is key to this stage. It is a divergent process which encourages thinking expansively, beyond one's own judgments or beliefs.

**PROTOTYPE:** In this phase we make the ideas generated in the previous phase more tangible. Building prototypes enable us to visualize possible solutions and show them to others, and we learn as we construct them.

**TEST:** Prototypes are tested with the users for whom we are designing. This helps us to identify areas for improvement or possible shortcomings of the proposed solution. During this stage the idea evolves, as feedback enables us to improve and refine the idea.

As seen in the sequence of [Fig. 02] (b), there are two types of possible behavior that will enable the process to operate properly. On the one hand, the 'divergent' phases (empathize, ideate) allow exploration beyond the known environment and open up possibilities; also, the 'convergent' phases (define, prototype, test) act as a filter, in which the important thing is to select options and develop them more specifically.

The Design Thinker profile proposed by Brown includes empathy, integrative thinking, optimism, experimentation and collaboration as inherent characteristics of people who practice Design Thinking<sup>8</sup>. Working with this methodological approach thus implies that students can develop several of the skills required for the above-mentioned jobs of the future.

In the next section, we will see how this methodology intertwines with the more specific approaches of the cross-curricular workshop and the subject Projects.

## **Development**

### **a) Organization and time frame**

Projects has been given in a workshop throughout the semester, with two exercises assigned and the teacher guiding the students via individual and group critical appraisal. This is the most common teaching method in architecture schools, and we call it 'slow architecture'.

Our innovative proposal for teaching involves complementing the usual program with several cross-curricular workshops on how to design. These 'fast architecture' workshops do not interfere with 'slow architecture'

exercises, but function as breaks injecting energy into the group and providing it with new tools to apply in the project cycle.

The time scheme of the academic year is shown in [Fig. 03]. The Projects subjects are given in one semester, and there are two levels per academic year, with a change of teachers in February. During the course, at least one fast architecture workshop is given for each of the Projects classes.

The content of a subject is taught over a period of fifteen weeks, while the workshops unfold over a minimum of five hours and a maximum of fifteen. 'Fast architecture' implies accelerating work, offering participants the content of the workshops in limited time.

### **b) Starting premises**

For these cross-curricular workshops to really serve their purposes, certain conditions must be met: a) several levels are involved in order to generate a collaborative environment; b) a common challenge is set, generally having to do with the school's surroundings (local scope); c) a professional is invited whenever possible; and d) they are held in a space other than the usual classroom.

The stakeholders of the training program are students and design teachers from several levels. However, the planning and interaction are not the same as in a conventional design lesson. [Fig. 04] shows a schematic view of how the classroom system is closed and endogamous; the school year involves the same teacher and the same fellow students, with a clear hierarchy between teacher and student. In contrast, the system designed for the workshop format is open and participatory. Students can interact with different design teachers, the members of work groups are from different levels, and the participation of experts from the world of architecture and design creates a direct connection with the professional world outside the school.

### **c) Work space and environment**

The Projects subjects are given in the usual classrooms, and with a teacher for the entire year. The cross-curricular workshops, however, take place in another room, and this break in the routine triggers new creative models, because a different environment makes one visualize things and behave in different ways.

A communal area in the school is required for this purpose. It should be spacious and bright, and preferably naturally lit and ventilated. And it should be able to serve as a temporary open workspace, and allow the following: Use of walls as a support for work, demonstrations, and stimulation Rearrangement of furniture, depending on use at each specific instance (projection, teamwork, rest, communication of results, etc.) Music to accompany activities and modulate work pace

Provision of a 'rest corner' with access to water, coffee, and soft drinks

Also, students have access to all of the school's services (model workshop, library, etc.) and can move around freely. They can enter and exit the space during work hours whilst being encouraged to manage their time appropriately.

As a result, the space is seen as a workshop or laboratory rather than as a traditional classroom. A study undertaken by the University of Salford in Great Britain reveals that "pedagogical spaces in which design is taken into account improve learning by 25%"<sup>9</sup>.

### **d) Content and specific actions**

The contents of the cross-curricular 'fast architecture' workshops vary, depending on needs arising in the course of the academic year and the availability of external professionals. Basically, we can divide them into two types, according to the type of external collaboration involved:

with companies in the sector, giving students the opportunity to work with specific materials and get acquainted with manufacturing techniques. with designers and architects, giving students deeper knowledge of the studio design process, familiarity with new operational techniques, and a professional benchmark.

Regardless of the type of workshop, they usually consist of several fixed phases that coincide with design thinking methodology. Table 2 lists and briefly describes these phases, with a workshop time schedule of five hours.

As a summary, and prior to reviewing the results and benefits provided, a comparison is made of the main characteristics of both means of designing proposed in this innovative action: fast architecture vs. slow architecture.

## **Results and benefits**

This produces a number of benefits, among which we have seen the following:

1.- The level of challenge is paralleled by the level of talent, which keeps students in the flow channel proposed by Csikszentmihalyi. Despite the intensity of the work undertaken, concentration and the motivation to come up with a design solution increase.

One might wonder if proposing the same challenge for students of different levels can cause the application of the theory to fail. Experience tells us this is not the case. Lower-level students view the workshop process as a rehearsal for their project assignment. It does not involve direct evaluation through a grade, so their stress levels are reduced, and they see teamwork as a valuable opportunity to learn from colleagues who have a little more experience than they do.

Higher-level students might perceive it as a low-level challenge; however, the approaches

adopted are such that the theme is novel and not previously worked upon. Moreover, their outlook is closer to that of the professional world, and these workshops involve meeting professionals, which means an opportunity to build up their portfolios.

2.- Being able to solve a challenge in limited time enhances students' engagement with the project, concentrates their efforts, maintains their level of commitment and has a favorable impact on their self-esteem.

3.- An environment of participation and dialogue is created in which different skills are honed. We refer particularly to those that the World Economic Forum considers essential for jobs in the future, cited in its 2018 report titled 'The Future of Jobs'. They include innovation, active learning and creativity, and originality and initiative, which we have already seen reflected in the first three positions in Table 1 for the year 2022.

4.- There is a complete vision of the project cycle, working with methodologies (Design Thinking) that can be transferred to daily classroom activity and problem solving. By means of a truly active approach, it is possible to enhance memory / recency, ensuring a theoretical-practical integration of the design process.

## Conclusion

The efforts of the Design Department's team of teachers to implement innovative methodological strategies have benefited not only the students, but also the school at large. It could thus be said that the school is a learning organization, one that prioritizes the learning process of all its members and of the system as a whole.

Chris Argyris classifies the learning process of an organization as simple-, double- or triple-cycle, depending on whether the results obtained motivate change in actions, in beliefs or in identity, respectively.

In this regard, the Projects subjects (or slow architecture) involve simple-cycle learning. A situation is presented to the students and they carry out a series of actions to obtain certain results. The way in which the organization works is perpetuated and not questioned.

The approach to other means of learning the design process, such as holding workshops (or fast architecture), involves changing how we think. Therefore, the teaching innovation carried out would be framed as double-cycle learning.

Passage to triple-cycle learning would need transforming teaching as it is now understood, changing the identity of schools through a different pedagogical approach. We still have a long way to go to achieve this, although contributions like this one bring us closer to the goal.

In conclusion, we have seen that it is necessary to join forces in promoting not only personal, human and professional development, but also to tailoring our

teaching to the preferences of students, as well as to the needs and demands of the future world of work.

1. María Acaso, *rEDUvolución: Carrying out the revolution in education* (Barcelona: Paidós, 2013).
2. Iñaki Ortega and Núria Vilanova, *Generación Z: Everything you need to know about young people who have left old millennials behind* (Barcelona: Plataforma Editorial, 2017).
3. World Economic Forum, *The Future of Jobs Report 2018*, (Geneva: World Economic Forum, 2018).
4. World Economic Forum, *Jobs Report 2018*, 24.
5. Ortega y Vilanova, *Generación Z*, 162.
6. Mihaly Csikszentmihalyi, *Flow: A Psychology of Happiness* (Barcelona: Kairós, 1997).
7. Csikszentmihalyi, *Flow*, 120.
8. Tim Brown. Design thinking. *Harvard Business Review*, 86, no.6 (2008): 87.
9. Acaso, *rEDUvolución*, 104.

## Architectural projects

Active methodologies

Design Thinking

Critical discipline

Motivation.