Beginnings and endings. Post-Bologna educational transformations. The case of the School of Architecture at the University of Alcalá (UAH)

Introduction

During the 2017-2018 academic year, the authors of this article implemented the innovation in teaching project entitled "Educational transformations in the first and last years of the architecture major in the new disciplinary, social and technological context" at the University of Alcalá (UAH). Taking as a case study the School of Architecture at the same Madrid university (ETSAG UAH), its objective was to survey and analyze the impact of or responses given in the first and last years of the program with regard to two phenomena that have conditioned (and continue to do so) the teaching of architecture in the last two decades: the structural and methodological reforms to European higher education summarized in the Bologna Declaration (1999) and a professional context marked by complex social and professional transformations (Figura 1).

The project arose from an initiative carried out by the Chilean authors of this article during an academic stay in the UAH's Doctoral Program in Architecture. Both individuals study the changes occurring in the teaching of architecture, comparing Spanish (a public university model with direct state control) and Chilean (a neoliberal model with indirect state control) cases, in the first and last years of the major. In this context, they invited teachers of first- and last-year students to evaluate the impact on teaching and education caused by the modifications to the curricular, social and professional frameworks in recent years. Then, the results of this study were compared with the current situation of architecture schools in Chile; this was possible as both researchers had participated in the formulation, management and monitoring of the curricula at the schools where they teach.

The starting hypothesis is that Spanish architecture schools are facing a particular scenario marked by the complex transformations that characterize the current social and professional reality in the construction of habitable space, as well as by the introduction of the Bologna Plan, the name of the curriculum implemented in Spain to meet the guidelines of the new European Higher Education Area (EHEA) (1999-2010).

In the twenty years since the beginning of the Bologna Process, Spanish architecture schools have undergone a series of adjustments in their structures to satisfy the process's requirements; of note are the establishment of an educational model based on competencies, the definition of a new unit of measurement of teaching [European Credit Transfer System or ECTS] and the creation of degree-based majors. All of this has the central objective of achieving greater homologation and mobility in a system of related and comparable degrees. Alternately, Latin American universities through the Tuning Latin America project (2004-2008), and in sync with Tuning Europe (started in 2000), have also adopted the new model based on competencies in their desire for competitiveness, comparability and compatibility with European universities (and among themselves), within internationalization policies in a globalized world.

In retrospect, the need to adjust the training of architects to certain social and professional paths is not new, as shown by the successive transformations experienced by schools of architecture since the beginning of the twentieth century [Ockman, 2014: 75-76]. At present however, the forces that apply pressure to the structures and teaching of architecture schools have broadenened: technological changes, globalization, the social and political role of architects, environmental responsibility, and above all an increasingly market-oriented educational economy (Bardi and García-Escudero, 2018). This situation was reflected well in the Libro Blanco de la Arquitectura (White Book of Architecture) promoted in 2005 by the National Quality Assessment and Accreditation Agency (ANECA); a complete study of the work and teaching of architecture, whose objective was to establish the foundation for degrees adapted to the EHEA and the new fields of professional work. Despite being an ambitious document with opportune and innovative proposals, in the proposal for the new undergraduate Architecture Degree [approved in 2007] this was considered little, while a continuous and unionist stance on teaching and the profession prevailed. Its inadequacy regarding the spirit of the EHEA was so evident that within several years of implementation the European Union required an important change, the
separation of the degree from professional qualification or licensing. The new undergraduate degree was established with 5 years of study (300 ECTS) and the unprecedented name of Degree in Architecture Foundations, and professional licensing was transformed into a one-year postgraduate program: the Master of Architecture (80 ECTS), better known as the Master Habitante (MH) or licensing-granting master's degree. As we understand it, this would demonstrate that the implementation of the first Bologna curriculum was more a response to agreements between traditional schools, architectural associations and the ministry, with their regulatory focus, than to the real need to update the discipline and its teaching within the EHEA framework. It should be remembered that in Spain, unlike Chile, all schools are governed by European directives and national guidelines specified by law. Hence, in relation to Chilean schools, Spanish schools are more homogeneous and have less space to maneuver to expand their teaching to new disciplinary fields. However, this model has the enormous advantage that the degree is in line with the legal powers of Spanish architects and is officially recognized in all European Union countries in accordance with Directive 2005/36/EC.

Assessing what these transformations have entailed for the first and last years of the major at the UAH School of Architecture is, as was mentioned, the objective of this article. To that effect, it is necessary to point out that although the choice of this school as a case study was practical - the doctoral theses that gave rise to this research were being carried out there - because of its size and history, what occurs there is generalizable to the Spanish context. Likewise, it should be noted that the choice of the first and last years of the major is due to the fact that, according to this research these stages are the most affected by the social changes and curricular transformations of the last several decades: the first year, given that new sociocultural characteristics can be observed in the freshmen students and, the last year, since its traditional organization and relationship with the profession have changed (Figure 2).

Methodology
The methodological strategy used in the project consisted of three major stages. The first involved carrying out a documentary analysis of two kinds of sources: [a] direct: curricula, syllabi and available regulations; and [b] indirect: principally articles on teaching innovation and the availability of research results.

Research results
The last two major reforms in the teaching of architecture, the implementation of the degrees as well as the license-granting master’s, have not arisen from internal debates but rather from an optimistic and suggestive supranational political will that developed in a bureaucratic environment where it seems more important to comply with ANECA’s punctilious accreditation processes (the endless Verifica program) that develop instruments consistent with the new teaching and disciplinary challenges of an information society.

Something similar has occurred with the new hiring policies for professors, based on a national and universal accreditation system by area of knowledge. This is another imposed idea whose development, although it had the laudable purpose of avoiding academic inbreeding, did not achieve its purpose since there is still little faculty mobility between schools. Similarly, the model has led to the consolidation of a body of professors with a high level of academic training (master’s degrees, doctorates, post-doctorates, etc.), where research and productivity are highly valued - above teaching, professional practice and social commitment.
Another component is the appearance of a series of instruments and protocols for faculty evaluation. Although this objective cannot be argued with, the associated paperwork has turned it into a bureaucratic hindrance, as professors do not see that it truly contributes to achieving the expected aims.

The above, together with the analysis of the specific academic outcomes, make it possible to affirm that regardless of what the "official documents" state, the training of architects has undergone few substantial changes with the Bologna Reform and has maintained much of the old rigidity in its objectives and content, in addition to the manner of imparting them. This situation, as explained below, affects both the first and the remaining years of training.

### a. First year

In general terms, the first year of education in Spanish architecture schools was not significantly altered with its adaptation to the European Higher Education Area's degree system. The duration of many subjects was reduced, their names and structures modified, but their overall features, traditional content and way of being taught have remained the same in most schools. As digital natives, different characteristics are attributed to the previous generation, linked to the information revolution (Solchulu, 2019).

That being said, a significant transformation has been observed in the characteristics of the incoming student body at the schools, which is now comprised of the millennial generation. As detected in the seminars and discussion sessions in the teaching innovation project, these are young people with a series of characteristics, some unprecedented and stimulating, others however, disconcerting:

- Ease in searching for and exchanging information: The students know their way around the exchange of information (networking) through digital networks.
- Previous knowledge: Previous skills and/or knowledge continue to be, according to their professors, increasingly lower and materialize in attitudes that are more passive and opposed to effort. This may be due to the fact that the major no longer has the prestige it did years ago and that its admission cut-off grade has decreased, probably as a result of the economic crisis that has had an impact on the employability of architects in Spain, which has come to affect motivation in this respect.
- Low concentration: There is a lower capacity for concentration and to carry out activities that involve the investment of time, patience and perseverance. This influences the planning of exercises, which must be divided into shorter phases.
- Multitasking: Students may perform several tasks at once. They participate in other activities outside the university alongside their studies.
- Short-termism: Students have difficulty working in the medium- and long term, that is, living with tasks in which the results are not immediate.
- Immediacy: Students have difficulty in living with uncertainty and dealing with adversity. They need constant certainty. Both factors make them prone to anxiety.
- Plasticity: Students are able to bring forth their creative spirit and discover new skills when motivated.
- A false perception of autonomy: They are aware that they are immersed in a mediated society, but not that their own responses are imported.
- Ease of understanding digital language: As digital natives, students have the ability to learn tools where the computer facilitates their tasks, which implies greater difficulty for analogous tasks.

- Visual-centered learning: Learning from an image predominates over the other senses.
- Difficulty in differentiating the boundaries between that which is material and virtual: Students familiar with virtual experiences show surprise and enthusiasm for experiential learning (Goycoolea and Fuentealba, 2018).
- Social and environmental concern: They express environmental and social concern but are not aware of how to channel these concerns from an architectural point of view.
- New ways of obtaining information: Students use various means to obtain information on the topics that interest them. They read less, although that is not why they are uninformed.

The professors’ responses to the new students’ characteristics are dissimilar. There are those who continue teaching practices that are disconnected from the observed changes; however, others seek more proactive pedagogies and attitudes. Despite the different stances, in Ulargui’s opinion (2019) the new tools for obtaining information, the speed of communication, and the appearance of new learning structures are calling into question current pedagogical
institutions. Considering this, the challenge for professors of first-year students is complex: it lies in proposing a teaching approach through exercises that promote interest in the discipline and simultaneously produce reactions and transformations in students (Souto, 1999). This is key because the primary function of the first year should never be forgotten. As Stephen Temple (2007) observes, indeed,

during the introduction to the design of architectural projects, the learning mechanisms that the student will use throughout their major are fixed, and the student’s ability to integrate higher level knowledge is prepared, confirming to the author that the initial learning in project design requires greater brain activity due to the development of multiple skills in a short period of time. [Lee, Juares and Colomés, 2019, p. 108]

b. Final year

The objective of the new major based on Bologna degrees is paradoxical. On the one hand, it is intended to adapt the new educational programs to the existing socio-cultural conditions, in a clear trend towards professionalization; but, on the other hand, the content implementation models significantly hamper that purpose. Thus, for example, the new license-granting master’s requires a highly demanding content integration activity: the drafting of a complete architectural project, which is similar in regulations to those executed by an architect in their professional career. Nevertheless, the degree that precedes it functions exactly to the contrary: the content is divided into a high number of subjects. Therefore, there a paradox because the sum of this multitude of subjects does not necessarily imply the integration of knowledge but rather the opposite: a fragmentation of the skills that the student trains systematically. This integration, which Bologna naively assumes emerges from the teaching of project design, does in fact arise from it, but only within the limited and restricted epistemological framework of each of the subjects taught in the degree. In summary, both the professor and inevitably the student, specialize in small parcels of knowledge, thereby disregarding the general outlook of the discipline, which is diluted as doxa or as a system of reference.

Over the course of the three years implementing the license-granting master’s degree, it has been detected that student skills are very high when they are assessed in isolation, but worryingly low when they are integrated into a single comprehensive task: the architectural design project. Students, given the prevailing teaching system, tend towards a decisive but not proactive attitude, which leads to a lack of critical thinking and speculative imagination. Meanwhile, if it is assumed that the discipline must speculate on the improvement of the spatial and material conditions of habitable space, the current system should be adjusted through the degree towards training with greater capability for integration. Only then can students enter the master’s degree with the necessary level of the acquired skills. The insistence of the degree on that which is propaedeutic and fragmentation to improve the efficiency of the result (fewer variables imply more security) contributes to uncritical subjects, although they are very capable and competent (for the market) (Figure 5).

In these circumstances, students who enter the license-granting master’s degree program find that the only and main objective of that year is submitting an architectural project, largely equivalent to the major’s former final degree project. Additionally, they discover that this project must be drafted completely and that most likely for the first time in the major they will give a public presentation before a diverse committee of professors from the various disciplinary areas (Figure 6). The student will, therefore, all at once have to deal with what a professional architectural project means and requires without having been prepared for it. Perhaps this is one of the reasons that explain why many of the final projects in the master’s program are not turned in by the usual deadlines but with extensions.

With the Bologna Plan students are on schedule with their subjects. They finish the program very young and if they have worked, they have only done so within the framework of the respective curricula, as internships in companies. The cost of enrolment in the license-granting master’s is higher, and therefore, the pressure to finish on time is high. All this, in addition to what has been stated in the previous paragraphs, makes it possible that this is considered “more difficult” than the former final degree project, as students have less time to develop the tools, skills and maturity necessary to navigate this closing stage in their training (Figure 4).

Conclusion

As a result of the Bologna reform, architecture education has experienced a series of transformations of which we only know the beginnings; the end of this process, which advances without a well-defined road map, remains to be seen. Insisting on the above, it seems important
to emphasize that many of these transformations are the result of external decisions and not the product of demands within the schools to embrace new pedagogical guidelines or incorporate emerging fields of architectural practice, but rather of political will.

University studies have ceased to be seen as a social elevator with guaranteed success, and have become a bureaucratic system for processing successive degrees (undergraduate degree, master’s degree, specialization, language certification, etc.), where the effort/benefit relationship has long been unbalanced.

Professors feel immersed in a bureaucratic system that on occasion causes them to lose the sense of their mission as educators of architects and people. However, and despite all the absurd difficulties that current university structures impose, they do not forget the role they play in the face of the coming changes. Hence, it is essential to know and identify the students coming into classrooms, their new characteristics as digital natives and their potential, to empower them from the beginning of their education and thus positively influence the population’s future quality of life. As in childhood, the training in the first quarters contains the foundation of what students can become, and most importantly, contains the seeds of their main tool to evolve: the passion for architecture [Ularqui and Miguel, 2017].

Regarding the last year, a collateral effect of the adaptation of Spanish university studies to the European legislative framework is the conception of the MH as the closure of the training process [Sauquet and Serra, 2018]. This has led to a very demanding content integration activity: the creation of a complete architectural project, obligatorily similar to that carried out by architects in their professional careers, which as mentioned, is not something that is previously promoted or required in the degree program, where content is segmented into independent subjects that even have separate internships. Therefore, it can be concluded that the institution of the MH modifies the structure of the final training exercise but does not necessarily require the restructuring of the curriculum associated with the degree. Consequently, although the MH is seemingly a major transformation, given its very recent implementation it is still very similar to the former final degree project.

Nonetheless, the implementation of the license-granting master’s has generated some opportunities that should be highlighted:

- It shortens degree completion times and regulates the academic support processes around the development of the final architectural project. A more concentrated and narrower focus is positive within the current context of continuing education and specialization.
- The process of joint work (both on the part of the group of students and the group of teachers) can favor the exchange of diverse ideas and collaborative work.
- It opens new opportunities to rethink and articulate the conclusion of architectural education: new formats, topics, development and presentation methodologies, new students, etc. Therefore, it is a window for all Spanish architecture schools to look at each other and themselves, and take this opportunity to make improvements.

Lastly, it is understood that although the final year is confined by academic and disciplinary traditions and legal provisions, there are mechanisms to develop topics or exercises that are more closely linked to new [and even unprecedented] practices and courses of professional activity. From that point of view, it is important to keep in mind that

[...] today, the traditional practices of the profession cannot be considered sufficient nor all of them suitable for contemporary architects. Architects need, more than ever, high doses of inspiration that enable them to identify or invent new formulas for professional practice without renouncing the role they have played thus far. [Puig-Pey, 2017, p. 301]

Addendum: a comparison with the Chilean case

The changes in university structures, the profession and the student body crosscut the architecture schools of Spain and Chile. However, school’s responses vary according to the model with which they are affiliated. In both countries, the substantial increase in the number of schools, students and graduates has led to questions about the compatibility of education and quality, and the regulations that promote that compatibility [Riøseco, 2006].

In Spain, the regulations that govern public university education restrict the ability of schools to determine their position, new areas or subjects, or make decisions regarding the teaching staff they want to incorporate into their educational project. Thus, the opportunity to make adjustments and be attuned to current and future disciplinary and professional requirements occurs, above all, in the classroom. In this respect, there are schools that have proposed pedagogical innovations at a general level or in specific years; the El Vallès School or
the Alicante School are clear examples. Other schools have opted for diversity in the pedagogical models of different teaching units, some more traditional, others more innovative.

The Chilean model, which is unmistakably neoliberal in nature, has a clear relationship with market variables and with a non-interventionist concept of the state. The main difference with the Spanish model is that schools possess considerable autonomy in determining their curricula; hence, there are schools that graduate their architects in 9 semesters, while others in 10, 11 or 12, although all award degrees that grant the same legal powers (Figure 6).

Higher education policies in Chile have promoted alignment with Bologna’s approaches in the reduction of undergraduate studies, in the articulation of undergraduate and postgraduate degrees, in the development of equivalent subjects, and in the measurement of the load for transferable credits. Some schools have designed strategies to comply with these guidelines without losing the epistemological roots of their teaching, that is to say, their traditions, or have reinvented themselves and made completely radical curricular proposals. Among the former is the School of Architecture at the University of the Bio-Bio, and within the latter, the proposed integrated workshop in the School of Architecture at the University of Valparaíso and the proposal of five degree paths in the School of Architecture at Federico Santa María Technical University.

In both Chile and Spain, the current systems for accreditation and selection of teachers are resulting in professors with more academic profiles (teaching professionals), who are frequently cut off from the professional career and even have little interest in teaching in favor of the benefits that come with research or academically quantifiable merits. In the Chilean case, some schools have succeeded in convincing their parent institutions of the value of professional development, while the tendency is to academicize teachers so universities may attain certain indices that translate into positive evaluations in accreditation processes and rankings, thereby neglecting key aspects of what has traditionally been understood as university education (Figure 7).
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