# The epistemology of architecture as a discursive project logic

# La epistemología de la arquitectura como una lógica proyectual discursiva

BRIBIESCA-ORTEGA, Alejandro†*, VILLANUEVA-GÓMEZ, Leticia and XOCHITEMO-PÉREZ, Aneli

*Benemérita Universidad Autónoma de Puebla. Faculty of Architecture. Blvd. Valsequillo s/n, Cd Universitaria, Cad. Universitaria, 72570 Puebla, Pue., Mexico.*

ID 1st Autor: *Alejandro Bribiesca-Ortega /* **ORC ID:** 0000-0003-4951-1939, **CVU CONACYT ID:** 494710

ID 1st Co-author: *Leticia Villanueva-Gómez /* **ORC ID:** 0000-0002-5304-394X, **CVU CONACYT ID:** 543378

ID 2nd Co-author: *Aneli, Xochitemo-Pérez /* **ORC ID:** 0000-0003-1758-9897, **CVU CONACYT ID:** 988211

**Abstract**

Facing the challenging task that the social and urban context of the city demands, as well as the latent competitiveness that exists in the professional life of an architect, the need arises to generate quality architectural objects that promote improvements in the construction of the City. However, this professional task depends in largely of the origin of the architect's training, which is co-dependent on the teaching-learning strategies under which each University is governed, that is why it is important to analyze in a multifactorial way, all those elements that have a wider impact in the formation of the architect. For this, it is proposed to make an analysis of how this discipline is taught and learned in the BUAP Faculty of Architecture, in comparison with a cross-sectional analysis of the educational axes of the main academic programs of International Universities that offer the career of architecture (Massachusetts Tech, USA; Oxford Brooks, UK.; AA, UK; Delft, NED), in order to understand how teaching is approached in these most recognized universities. In this way, it seeks to identify those strategies that improve the learning quality of the architectural design process, so that students are prepared for the challenges of professional life. So that these strategies can be applied both to the educational axes, as well as to the change of the line of reasoning that the faculty of architecture, of the BUAP.

**Resumen**

Ante la desafiante tarea que exige el contexto social y urbano de la ciudad, así como de la latente competitividad que hay en la vida profesional de un arquitecto, se gesta la necesidad de generar objetos arquitectónicos de calidad, que promuevan mejoras en la construcción de la Ciudad. Sin embargo, este quehacer profesional depende en gran medida del origen de formación de los arquitecto, la cual, es co-dependiente de las estrategias de enseñanza-aprendizaje bajo las cuales se rige cada Universidad. Es por ello, que se hace importante analizar de forma multifactorial, todos aquellos elementos que tienen mayor incidencia en la formación del arquitecto. Para ello se propone hacer un análisis de cómo se enseña y se aprende la esta disciplina en la facultad de arquitectura de la BUAP, en comparativa con análisis transversal de los ejes educativos de los principales los programas académicos de las universidades internacionales que ofertan la carrera de arquitectura (Tecnológico de Massachusetts, EEUU; Oxford Brooks, UK.; AA, UK; Delft, NED), con el fin de entender cómo se aborda la enseñanza en estas universidades de mayor reconocimiento. De esta forma, se busca identificar aquellas estrategias que mejoren la calidad de aprendizaje del proceso de diseño arquitectónico, de forma que los estudiantes, estén preparados para los desafíos de la vida profesional. De manera que estas estrategias, puedan ser aplicados tanto a los ejes educativos, como al cambio de la línea de pensamiento que la facultad de arquitectura, de la BUAP.

**Epistemology, teaching, Strategy**

**Epistemología, Enseñanza, Estrategia**

* Author's Correspondence (E-mail: al_bribiesca@hotmail.com)
† Researcher contributing first author.

## Introduction

Epistemology is a theory of the foundations and methods of scientific knowledge (Rae, 2022), which means that the aim is to find the origin and nature of knowledge.

That said, understanding the epistemology of architecture will give us a new perspective on how this discipline has to be understood from a complex and cognitive thinking that must analyse the phenomena as part of the process and not the result.

The hypothesis of the article is to be able to analyse the academic axes of the BUAP architecture degree and the academic axes of various universities worldwide, in order to compare and decipher which are the problems of teaching and learning in the faculty and thus take a series of steps to be able to direct the didactics of the students to a globalised approach.

*A latent need*

What on earth moves me about this building, how can I project something like this, how can things be projected with such presence, beautiful and natural things that move me again and again? (Zumthor, 2011, p.10)

We live immersed in an architecture and therefore in a City, which have been adopted in a univocal way, however, its design has emerged as a response to employ a priori solutions. This aspect forces us to analyse modern architecture in a retrospective way and under a complex thought, so that we can value the intentions that arose in this style, as well as question ourselves about what has been learned and forgotten from the most representative architects of the style. In addition to this, the aim is to identify at what point and under what conditions the manifestos of the modern style are broken, as well as to reflect on how it is that these manifestos are only reflected in the architecture of elite professionals.

This is a current problematic, which consists of a cognitive process that analyses and studies architecture more as a result and not as a process. It starts from a priori elements and not from the phenomenon of these elements. One of these a priori elements is precisely the fulfilment of the architectural programme, which is often neither reflected upon nor questioned.

In addition to this, there is a growing demand for spaces, which results in buildings that are cloned, in which elements are imported with no sense, however, as this is the common denominator of the architecture that surrounds us, the user cannot demand a higher quality in the design, as in principle he does not even know that this is possible, perhaps due to the lack of knowledge about architectural design.

In contemporary Mexico, architecture schools should be obliged to prepare students to face professional life, which is marked by the demand for government projects and works that depend on six-year or short-term plans; and by the demand of private initiative that demands a response to global agents, such as brands or international concessions, which means that the execution time of a project is becoming shorter and shorter, giving answers in record time.

In view of these problems, it is necessary to analyse, from a complex point of view, how architecture is learned and communicated, as well as the design processes involved in the architectural production of this style, which must be compared with those put into practice today.

## The line of thinking of the Benemérita Universidad Autónoma de Puebla (BUAP)

The BUAP's Architecture Degree Programme states as part of its objectives that since its creation, 50 generations have graduated and that in the period 2000 to 2009 the average number of students graduating was 70%. It also identifies that 94% of graduates are satisfied with the degree in architecture, while employers are 90% satisfied. On the other hand, it is pointed out that on average, 30% of students enter the labour market and that of the total number of graduates, 80% or more are dedicated to work activities related to their studies, this in their first year after graduating (Benemérita Universidad Autónoma de Puebla, 2009).

This leads us to reflect on whether the university's objective is the number of graduates or their quality. If the important thing is that 80% or more are working in their degree or what percentage of that 80% is working in the place, company or country in which they wish to work and, above all, what quality of architecture they are producing and what quality of city we are shaping and living in.
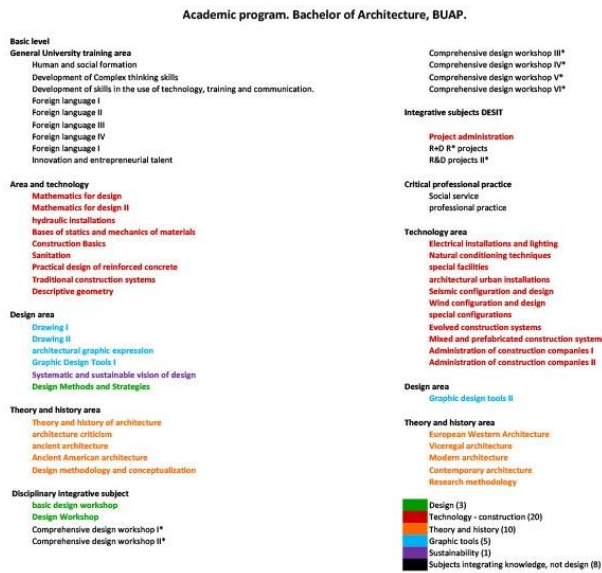
BRIBIESCA-ORTEGA, Alejandro, VILLANUEVA-GÓMEZ, Leticia and XOCHITEMO-PÉREZ, Aneli. The epistemology of architecture as a discursive project logic. ECORFAN Journal-Republic of El Salvador. 2022

**Figure 1** Academic programme 2016 of the FA BUAP
*Source: Own elaboration based on the academic programme of the Faculty of Architecture of the Benemérita Universidad Autonoma de Puebla.*

The university, the anteroom to professional life, has been and is responsible for preparing students for professional life. The great separation that exists between these two activities has led the architect to leave aside the study of the site, the planning, the reflection, the analysis of the process and the experimentation that any quality project should have, entrusting the solutions to different software, libraries and blocks, turning the new project into a collage of old mistakes. But beyond this and under this anteroom, the architect loses the fundamental objective of space, the 'inhabiting', thus resulting in architectural objects that essentially dispense with their main function, for as Pallasma (2016) points out "the act of inhabiting reveals the ontological origins of architecture, and hence affects the primordial dimensions of life in time and space" (p. 7).

In this context, and considering that execution times are becoming faster and faster, as well as computer programmes and tools are becoming more and more efficient, why is the teaching of architecture at university not so? Perhaps the key is in the teaching of architecture, but where is the problem, in the academic programme, in the facilities, in th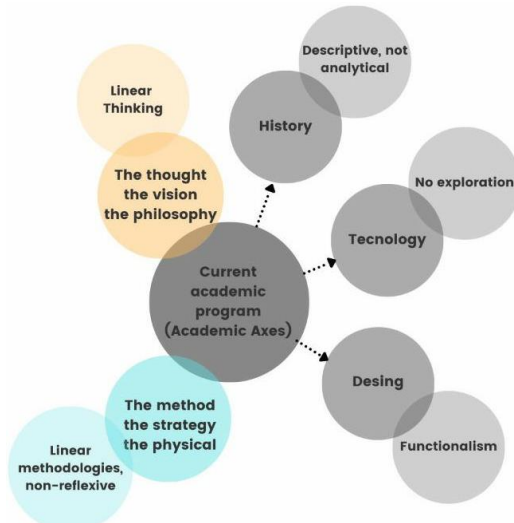e equipment or in the teaching process?This leads us to reflect on whether the university's objective is the number of graduates or their quality. If the important thing is that 80% or more are working in their degree or what percentage of that 80% is working in the place, company or country in which they wish to work and, above all, what quality of architecture they are producing and what quality of the university, the anteroom to professional life, has been and is responsible for preparing students for professional life.

The great separation that exists between these two activities has led the architect to leave aside the study of the site, the planning, the reflection, the analysis of the process and the experimentation that any quality project should have, entrusting the solutions to different software, libraries and blocks, turning the new project into a collage of old mistakes.

But beyond this and under this anteroom, the architect loses the fundamental objective of space, the 'inhabiting', thus resulting in architectural objects that essentially dispense with their main function, for as Pallasma (2016) points out "the act of inhabiting reveals the ontological origins of architecture, and hence affects the primordial dimensions of life in time and space" (p. 7).

In this context, and considering that execution times are becoming faster and faster, as well as computer programmes and tools are becoming more and more efficient, why is the teaching of architecture at university not so? Perhaps the key is in the teaching of architecture, but where is the problem, in the academic programme, in the facilities, in the equipment or in the teaching process?

**Figure 2** Graph showing the main axes of the 2016 academic programme of the FA BUAP
*Source: Own elaboration based on FABUAP's 2016 academic programme*



**Figure 3** Table showing the analysis of academic programmes of international universities
*Source: Own elaboration based on the review of the academic programmes of international universities*

In a globalised world, even with the differences in contexts and economies, it is necessary to broaden the object of study and the perspective from which it is observed, for this it is proposed to look at the best universities in the world, as well as where trends are moving, why and for what purpose. As can be seen in Figure 1, the academic programme of the BUAP's Bachelor's Degree in Architecture is made up of 5 main axes (Academy of Architecture of the Benemérita Universidad Autónoma de Puebla, 2016): technology, construction, theory-history, design, graphic tools, sustainability, the most important aspects being those shown in the figure below 2:

By analysing the best architectural universities in the world, including Massachusetts Tech, USA; Oxford Brooks, UK; AA, UK; Delft, NED, etc., and classifying their line of thinking, we were able to understand how they teach architecture, how they classify their line of thinking and even identify the predominance of experimental design (see figure 3).
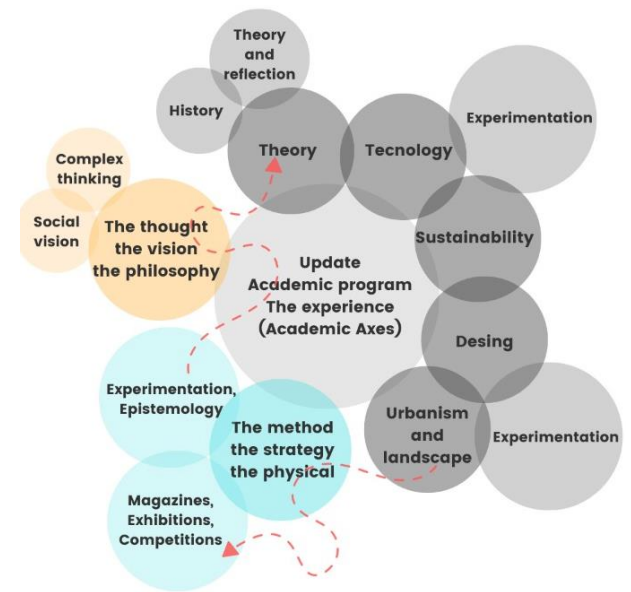


**Figure 4** Graph showing the main axes that the Academic Programmes of the international trend have in common

Prestigious universities base the teaching of architecture on 5 fundamental axes: technology, design, bioclimatism or sustainability, theory and urbanism-landscape (see figure 4).

BRIBIESCA-ORTEGA, Alejandro, VILLANUEVA-GÓMEZ, Leticia and XOCHITEMO-PÉREZ, Aneli. The epistemology of architecture as a discursive project logic. ECORFAN Journal-Republic of El Salvador. 2022

This is an indicator that what is taught is important, and even more so, how it is taught. It is identified that, starting from experimentation, even in the case of utopian projects to address a social problem, allows for open-mindedness, the breaking of paradigms and analytical reflection, which are key elements for professional development (see figure 5).

For example, when reviewing the subject of Electrical Installations, it is identified that a linear learning of a priori technical solutions is regularly applied, which translates into a reductionist and partialised knowledge.

If the aforementioned strategy were to be applied to this subject, then the first step would be to reflect on the phenomenon of lighting and explore it, which would then be a knowledge that would have a direct impact on design, which would be underpinned and complemented by technical solutions.
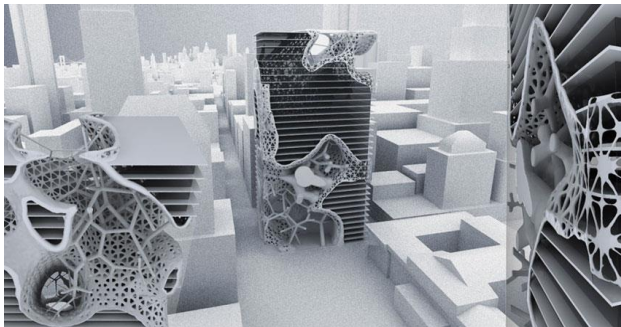


**Figure 5** Project resulting from the project workshop at the AA School of Architecture, England
*Source: Image retrieved from: http://landscapeurbanism.aaschool.ac.uk/sample-page/*

If we maintain a structuralist and linear line of thought, which starts from a priori solutions, without linking the subjects in the same project, discarding exploration, without social concern and participation, we will follow a line that returns to the point of origin. This leads generation after generation to a deceptive progress and not an academic evolution, as demanded by the globalised world.

In addition to this, and beyond any tool or resource, experimentation, the elaboration of exhibitions, trips and publications, is what provokes reflection in the student and prepares him/her for the challenges of professional life (see figure 6).

Phenomenology as a way of thinking and seeing becomes an agent for architectural conception. While phenomenology restores us to the importance of lived experience in authentic philosophy, it relies on perception of pre-existing conditions. It has no way of forming a-priori beginnings. Making a non-empirical architecture requires a conception or a formative idea. (Holl, 2014, p.48)



**Figure 6** Photograph of a class in the Project Workshop of the School of Architecture, University of Delft, The Netherlands, in which the exploration of the object of study is observed
Source: Image retrieved from: http://landscapeurbanism.aaschool.ac.uk/sample-page/



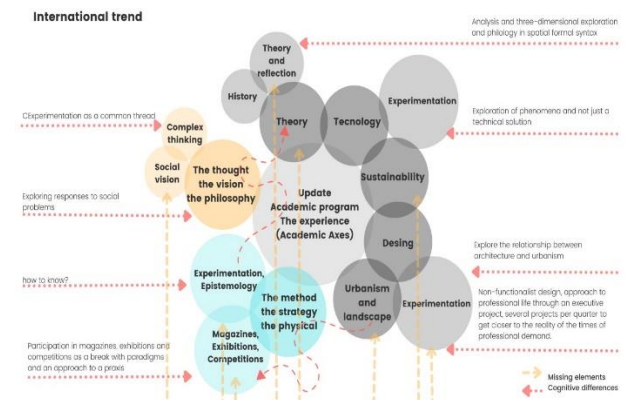**Figure 7** Comparison of FABUAP academic programmes and international trends
*Source: Own elaboration based on the FABUAP academic programme*

BRIBIESCA-ORTEGA, Alejandro, VILLANUEVA-GÓMEZ, Leticia and XOCHITEMO-PÉREZ, Aneli. The epistemology of architecture as a discursive project logic. ECORFAN Journal-Republic of El Salvador. 2022

The fundamental point is to understand architectural, graphic and urban design as a knowledge that can be transmitted, so that during the study of the degree course the cognitive tools can be made more efficient, and experimentation can be carried out, as well as teaching how to read the site and its context more quickly, so that the response is practically immediate and time can be used to improve the quality of design. An example of such an approach of phenomenological exploration is the one proposed in the methodology of the teaching process for the development of creative skills, which details strategies that are consolidated with the learning of formal spatial language and under complex thinking (Bribiesca, 2021).

Rethinking how architecture is learned and communicated from a complex thinking, as well as the analysis of the design process from a structuralist thinking and comparing it with what is currently done in school, leads us to detect the factors in which the fracture of knowledge exists (see figure 7). This reveals that the cognitive system that analyses and studies architecture is treated more as a result that starts from a priori elements and not as a process that derives from the phenomenon of these elements.

In other words, the architectural project, through this system, is reduced to the fulfilment of an architectural programme that is often not reflected upon or reconsidered.

Participating in architectural competitions, as has been promoted in recent years at BUAP, will allow us to compare the level of the university with those of the rest of the world. So far, this has been done in an isolated way and there have been some results, as state, national and international prizes have been won:

First place in the international competition "Wine Museum", first place in a state competition "The New House of the Adolescent", or the mention in the ENEA 2009, (three awards obtained by a team of students coordinated by a single professor of this faculty). It is worth noting that never before had FABUAP (Faculty of Architecture, BUAP) won 1st place in an international competition.

This is not a coincidence, it is the product of experimental thinking that has been introduced in recent years, which helps to quickly solve a problem in an innovative way. Here, it is important to note that this is not an isolated effort, but that it is necessary to restructure the educational axes in order to change the line of thinking of the faculty.

Identified strategies

- To direct the academic programme of the architecture degree to the 5 axes of global education: technology, design, bioclimatism or sustainability, theory, urbanism-landscape, from a complex and epistemological perspective that links the different subjects in an experimental line.

- Disseminate the work by means of publications via the Internet that encourage the participation of students as well as teachers.

- To carry out exhibitions with the resources available, which go beyond the content to be presented and become an exercise in design, planning and execution, breaking the paradigm of theory and praxis.

- To compete in a greater number of national or international, academic or professional competitions, in order to bring students closer to professional practice and competitiveness.

- Promote epistemology courses and workshops for teachers and students.

## Acknowledgements

## Conclusions

Beyond the financial resources we have, beyond the facilities we have, beyond changing the name of the subjects, to provide an experimental academic awareness, in the foreground; followed by a professional practice with design processes more fluid and coherent to our times in order to obtain higher quality architectural products that will weave a more related urban context.

**References**

Academia de arquitectura de la Benemérita Universidad Autónoma de Puebla. (2016). Plan de estudios de la licenciatura en arquitectura de la Benemérita Universidad Autónoma de Puebla. n/a.

Benemérita Universidad Autónoma de Puebla. (2009). Proyecto de actualización del programa de estudios de la licenciatura en arquitectura de la Benemérita Universidad Autónoma de Puebla. n/a.

Bribiesca, A. (2021). Metodología de diseño para el desarrollo de habilidades creativas con un lenguaje arquitectónico coherente. doi: 10.35429/B.2021.4.1.102

Holl, S. (2014). Phenomena and idea. En Matthew, M. (Ed.), *The Material Imagination: Reveries on Architecture and Matter,* (47-56). New York: Editorial Routledge

Pallasma, J. (2016). Habitar. Barcelona: Editorial Gustavo Gilli.

Real Academia Española: *Diccionario de la lengua española*, 23.ª ed., [versión 23.5 en línea]. <epistemología | Definición | Diccionario de la lengua española | RAE - ASALE> [15 de diciembre de 2022].

Zumthor, P., (2003). Atmosferas. Barcelona: Gustavo Gili