

***Innovation in university didactics :
Towards a better preparation of the architecture student for the
professional environment***

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Abstract

The reflection on the university curriculum and methodology of teaching architecture in Tunisia brings us to opt for a better preparation of the student for a highly competitive professional environment. Trying to understand the deep specificities of the discipline of architecture and to identify the major features of the relationship between the academic and the professional environment allow to identify some tracks and some possible actions related to their teaching. The emphasis is placed on an innovative two-pronged approach. The first concerns a teaching method oriented more towards multidisciplinary and group teaching. The second concerns the didactic content of the transversal and the optional teaching units which must be both imbued with an applied character and open to communication through new technologies, site visits, marketing, multilingual communication, management and Design as well.

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1. Introduction

Article 26 of the Universal Declaration of Human Rights states that "...higher education shall be equally accessible to all on the basis of merit...". The UNESCO proposes "a series of measures to make higher education more equitable and affordable", aiming to erase inequalities and disparities. Moreover, the objective would be to increase access to higher education (according to the International Convention on Economic, Social and Cultural Rights), which is considered beneficial for not only the individual but also the community.

The stakes of the democratization of higher education are high, and are at the heart of an international dynamic. The increase in the number of students over the last few years in Tunisia seems to be in line with this desire (the success rate of the Baccalaureate in Tunisia increased in 2021). However, the repercussion on the effective employability of these graduates is a big issue. It would even constitute the origin of a revolution, as the sparks of the Tunisian revolution attest. From now on, the "right to work" is claimed, and the ILO (International Labor Organization) stands as a fervent protector. Its democratization is even advocated (E. Renault, 2022, p. 69-94).

However, the dilemma is real and the reality is so bitter. The unemployment rate among university graduates is quite high (INS, November 2021). Thus, the desired democratization in the field of higher education and in the field of employment seems unbalanced, not going hand in hand. The gaps are widening, intensifying and increasing in certain specialties. Even though architecture is a flagship sector, it is not immune. Difficulties arise, multiply and calm down at times, without ever disappearing (C. Gharbi, 2021 ; A. Hamza, 2020).

Thinking about reducing the gaps is a real challenge, it cannot be considered outside of the duality: university and workplace, supply and demand, skills offered available, and skills sought by the professional world. The synchronization between these two poles is necessary.

For the public higher education related to architecture, the major problem lies in its capacity to develop itself, to innovate, to be in phase with a changing world, especially with an increasingly competitive environment that is witnessing the proliferation of private schools of architecture and the saturation of the professional world with new graduates every year. The questioning of the applied pedagogical tools and the content of the current teaching program in Tunisia would be a necessity, urgency even.

This urgency also comes from the very essence and definition of architecture. In "Theses of Work", dating from 1923, Van der Rohe attests that "*architecture is the will of time translated into space. Living. Changing. New*" (quoted by U. Conrads, 1996, p.91). This is what the discipline is for one of the most influential architects of the 20th century, so what about teaching it? Wouldn't it be appropriate to apply it to the teaching at architecture university which must be the carrier of these values in order to transmit them to young students? At the beginning of the 20th century, the Bauhaus school was a strong symbol of this. The same applies to the Tunisian school of architecture of the 21st century to which we aspire.

To understand the problematic of architectural education, one must reflect on its methodology, its objectives, its foundations, its didactic content and its relationship with the professional environment.

In this sense, certain questions arise. In this sense, certain questions arise. Teaching may not be enough, it is also necessary to train concurrently, but would it be possible to teach and train at the same time ? How to reconcile knowledge and profession ? How to train a quality graduate ? How to teach a discipline that is at the border of art, science and technique to a student who is supposed to practice a

profession after having studied for 6 years ?

The objective of this research is to reflect on the possibilities of enhancement and of a closer relationship between the academic and the professional environment, without the former losing its values or its status as a "temple of knowledge". In the process currently adopted, the professional side should be more integrated with applied approaches without denigrating theoretical knowledge. This reflection will be crowned by the formulation of precise, synthetic and targeted proposals relating to teaching and including the approaches, the objectives, the advantages as well as the means of application. These proposals take into consideration the profile of the specialty and its current environment which is constantly evolving... They also aim to help prevent, prepare, and reduce the adaptation the time of the future graduate and minimize their feeling of "isolation".

The methodology of the current research is based on a theoretical and reflexive approach nurtured by a personal experience in university teaching when working in several public university institutes (different institutions : The ENAU (National School of Architecture and Urbanism), ISTEUB (Higher Institute of Environmental Technologies, Urban Planning and Construction), ISBAN (Higher Institute of Fine Arts of Nabeul),

ISCIT (Higher Institute of Islamic Civilization of Tunis); and several levels (Bachelor's degree, First cycle, Professional Master's degree, Master's degree in research)). I held the position of a teacher and a coordinator, and I actively participated in the planning of the curricula and of some of the university courses for the Professional Master's Degree students (bachelor's degree in Space Design, speciality : Interior Design ; Professional Master's degree in Interior Design, etc). I also assisted young graduates in their first steps (in internships, applying for contract teaching positions ; or on the post-graduate benches, etc.).

The research is divided into three parts. The first part discusses architecture as a specific discipline at the border of art, science and technique as well as its position in relation to the academic and professional environment. This leads to the second part which deals with the question of the pedagogical methods, proposing their enhancement through the adoption of certain methods which are active, dynamic, inspired and oriented, and which are in harmony with the practice of the future graduate's profession. However, in addition to the pedagogical methods, reflections should also be directed towards the didactic content of certain subjects commonly referred to as transversal and optional (reflection on the fundamental so-called "specialty" subjects are not the

subject of debate in this research). They are the elements that will be studied in depth in the third part.

2. Architecture between the academic and the professional

2.1 Architecture: a borderline discipline between art, science and technique

According to Vitruvius, architecture is “a science that must be supported by a wide range of studies and knowledge by which all the works of art that belong to it are judged. This science is acquired by theory and practice” (quoted by C. Perrault, 1674 : p.30). Vitruvis, who served Julius Caesar and Augustus in the first century B.C (C. Perrault, 1674 : p.2), had already insisted on eleven "skills" necessary for the architect, and this was mentioned in his famous treatise “De architectura” (C. Perrault, 1674 : p.31-35). Vitruvian architecture would be, from a certain point of view, a science because it is an encyclopedic knowledge and an architectural science, it follows a methodical approach, it is based on theory and practice couple, and above all, it is endowed with the mathematical character judged as a criterion of scientificity (P. Caye, 2021).

Philippe Boudon discusses this thesis of reconciliation between architecture and science, and points out that we must distinguish between architecture as an object and architecture as an object of

knowledge, and between architecture as a science and architecture as an object of science (P. Boudon, 2003 : p.8). Several architects such as Aldo Rossi, Christopher Alexander, Vittorio Gregotti and Henri Ciriani (P. Boudon, 2003 : p.8) have admitted this idea.

Moreover, Vitruvius, draws up the triad, known as Vitruvian, which is still dear to architects: solidity, convenience and beauty (C. Perrault, 1674 : p.35-36). Later in history, this triad is readjusted and updated, but the terms that constantly recur are: construction - structure - strength - utility - distribution - function - pleasure - decoration - form, etc.

... Those would be the key words for an architect. However, we shouldn't forget that etymologically the term architect is *"borrowed from the Latin architectus and the Greek arkhitektôn, and is composed of arkhi or " chief, first" and tektôn or carpenter, builder"* (Le dictionnaire de l'académie française), that is the master builder.

The practical, professional and organizational side in the field to conduct and technically supervise the construction is well embedded, reminiscent of the technical side of the work, in addition to design.

Architecture is a technical achievement because it is indeed a question of materials, assemblies, applications,

structure and measurements. We are currently even talking about, domotics, technology, air conditioning, wiring, equipment, etc.

As for philosophers, we underline the approach of Aristotle who speaks about architectural arts whose ends, according to him, *"must be privileged to all those of the subordinate arts since it is with a view to the first ends that one pursues the others"* (quoted by J. Tricot, 1997 : p.33). This privileged status to architecture, as an art form compared to others, has been maintained. Hegel even considers that it is through architecture that art begins (Hegel, quoted by Ch. Bénard). In its "system of arts" which proposes ranking arts from the most tangible and the least expressive to the least tangible and the most expressive, architecture is in first position, according to Hegel, architecture is followed by sculpture, painting, music and poetry, (Hegel, 1997 : p.8). Subsequent rankings continue positioning it as the first major art.

As far as the architect is concerned, we underline the words of Blondel (P. Caye, 2017 : p.83-86) who defines architecture as *" ... the most useful of all arts... it is also the most ancient"* (J. F. Blondel, 1771 : p.125).

It is *" ... the art of taste, genius and invention"* (J. F. Blondel, 1771 : p.132), the spirit of innovation and creation continues to be the basis of architecture.

Subsequently, with the establishment of the Bauhaus school and the publication and implementation of its manifesto by Walter Gropius (Encyclopædia Universalis), craftsmen and artists were called upon to create together. In addition, painting, sculpture and applied arts will be integrated into architecture to create " *an art of living in the 20th century* " (Encyclopædia Universalis). We are talking about modern architecture in process.

Not only has the essence of architecture taken a radical, influential and irrevocable turn, but also its teaching. This is another lesson to be learned for the current academic world of architecture in Tunisia, calling for consideration for training that is now given.

2.2 The Student's academic training in architecture : Knowledge and market demand equation

The academic training lies between two poles: knowledge on the one hand, and the market on the other. However, the ambiguity that arises is related to the relational and hierarchical character between these two poles. For an architecture student, what knowledge should be taught, and how does it relate to national and international markets ? The question that arises is both strategic and delicate.

As a discipline, the knowledge is enormous. The knowledge that can be taught is immense, not measurable, and yet, the student has to master what is given in a fixed term of one year.

Added to this, we have to consider the relationship between the content of teaching and the job market with its requirements and demands.

On the one hand, knowledge or skills have to meet the demands of the labor market. On the other hand, it is necessary to anticipate those needs in order to be able to satisfy them (ILO) in time. But simply focusing on the demand and the reality of the market would not be enough. It is also necessary to anticipate those possible future needs, to plan, to have the necessary time and to install the necessary devices to respond to them in university teaching, in terms of content, and pedagogy, resources, etc. This state of planning is a key to success.

To determine which of these two poles fuels the other seems to be impossible because they are part of a dynamic circle. One cannot exist without the other, and one is compelled to take the other into consideration in order to exist.

This dynamic relationship invites us to observe these two poles, to learn from their experiences and to venture into new ones, with the aim of reducing, if not eliminating, the gap between supply and

demand in terms of skills and between the skills provided (trained graduates) and the skills required (the demand of the Tunisian market.) Therefore, an innovation in university teaching is needed. We propose a two-pronged action: the pedagogical model and the didactic content.

3. The teaching method: towards a more active pedagogy open to the professional life

The integration in the professional life remains the culminating goal of the educational process of an individual. For a future architect, theoretical knowledge should be accompanied by a practical approach more in line with the real requirements of the current national or international professional environment.

Teaching architecture should focus more on the relationship between theoretical knowledge and the practice of the profession. In this context, it would be relevant to reflect on the teaching methods to be adopted before focusing on the didactic content of its units.

Adopting a methodology that is closer to the professional life highlights the potential of a multidisciplinary approach and group teaching at a certain level of the university curriculum.

3.1 Multidisciplinarity

Architecture " is not the expression of a solitary work" (A. Zublena, 2018), neither in the project phase nor in the realization phase, not even in the phase of use or employment by users over several generations. Constructing a building brings the architect into direct contact with several stakeholders, some of whom are permanent, while others change depending on the type of project. At a certain level of learning, it is necessary to focus, among other things, on the use of exercises that simulate as much as possible a situation close to the professional life.

The emphasis has to be put on the major role and the almost constant presence of real engineers, electrical engineers, fluids, air-conditioning, VRD, interior architects, etc. Others would intervene less frequently (depending on the nature of the project), such as the urban planner, the experts in acoustics, in energy efficiency and in structural steel, etc.

Multidisciplinarity is an undeniable reality of any building. It would be fruitful to embed it in the spirit of the future architect and to incorporate it in the teaching method to guarantee a better practice of the profession. This approach will have the advantage of making the student more active, positive and open. It also allows them to better understand the complementarity of the different teaching

units through real connections as well as through the opening to other disciplines or specialties such as engineering, design, urban planning, energy management, etc.

The aim is to encourage the students to get in touch with these disciplines, not only through theoretical courses or disparate applications, but also through joint projects and exercises dealt with in different teaching units with appropriate objectives, duration and supervision (a team of supervisors of the concerned disciplines). This can be done either through a common exercise initiated in the project workshop and dealt with in parallel in the other courses concerned, or through workshops (V. Plaut, 2015 : p.47).

Workshops are becoming more and more popular and are distinguished by their effectiveness both in terms of approach and results. Three workshops per level can be advantageous.

3.2 Group teaching

Teaching means using several pedagogical methods (A. Ammar, 2017) : affirmative ("expository" and demonstrative), experimental, interrogative and active. There is no doubt that focusing on communicative, interrogative or discovery approaches are necessary and even basic for any teaching, but in the field of architecture, the emphasis should be put more on group

pedagogy. There are two reasons for this that have to do with the reality of the professional life (mainly on an international level) :

- Today, we talk more about architectural firms, and less frequently about a single architect. The grouping as a team, especially a multidisciplinary one, is becoming more and more prevalent because of its great potential.

- To carry out a project, the architect is in direct contact with several stakeholders of complementary or adjacent disciplines.

This approach has the merit of boosting the students in groups or teams. It allows the future architect to develop a more open attitude and it favors collaboration and communication. It also develops the skill of exchange as well as the sense of: listening, research, argumentation, self-evaluation, positioning in relation to other participants, etc.

The methods for applying the approach are essentially based on the design of mini projects (which are about real cases). In addition, it would be wise to plan some participation in a national or an international architectural competition (under the direction of an architectural office and under its responsibility, and through cooperation between the latter and the university for example) at least once during their university education. In this case, the university can opt for

partnerships (law n°2008-19 of February 25, 2008 relating to higher education, JORT n° 19, p. 844) with architectural firms, or even with a private individual wishing to construct a building. The best project can be offered free of charge to the sponsor, for example.

4. The learning content of the cross-curricular and optional teaching units

Let us recall that "didactics is first and foremost a field of research that aims to be scientific and is based on the epistemology of reference knowledge (its nature, its history, its mode of transposition), the conditions of appropriation of that knowledge and the characteristics of the didactic intervention (characteristics of the teacher and of what is taught)" (M. S. Houichi, s.d. : p.8). Didactic transposition is "*the process by which scholarly knowledge becomes the teaching content*" (M. S. Houichi, s.d. : p.9). In order to bring the student closer to contemporary architectural practice, the effort should be directed towards this transposition and through a reflection on the fundamental teaching units, but not only that. Greater emphasis should be placed on the content of cross-curricular and optional teaching units. These units have the advantage of introducing the student to knowledge, techniques, or methodologies of approach capable of helping them to practice their profession, and to maximize their chances in an

increasingly competitive professional environment.

Architecture as a liberal profession (C. De Montlibert, 1974 : p.626-629) is in metamorphosis. It must be in phase with its time, the contemporary society and the requirements of the market. In the 21st century, this profession is also to be considered as a "business" to be managed and developed. To achieve this, the architect must have a maximum of assets on their side. They must not only be aware of the potentials of certain knowledge, but also be able to grasp its basic principles. In this sense, it would be interesting to move more towards applied teaching units open to site visits, marketing, communication through new technologies, multilingual communication: English (along with Arabic and French) or another language, management and professional organization, and Design in its plural sense.

4.1 The visit, the follow-up and the management of construction sites

A teaching program based on visiting, following up and managing the construction sites tends to bring the future architect as close as possible to the professional environment. Its major objectives are: to make students understand how a construction site is organized and how it progresses in different phases (the choice of sites to be

visited must be aimed at showing the student the different phases of progress of the work), familiarize with the complexity of a wide range of parameters (several stakeholders from different professions, execution times, constraints, etc.) and perceive possible difficulties. The content of this teaching is based on: observation, contact, analysis, along with the establishment of schedules, timetables and detailed sheets. The application methods are based on direct contact (real visits to construction sites), as well as on application exercises and organizational simulations. Administrative difficulties relating to site visits can be overcome through rigorous planning (we have contributed to the implementation of this experience at the Higher Institute of Fine Arts in Nabeul with the students of the license in space design, speciality interior design. The rigorous planning of the teaching sessions (site visits) and the filing of the necessary applications to assure both the teacher and the students have contributed to the smooth running of the visits), and risks of accidents can be controlled.

4.2 Marketing and communication technologies applied to architecture

At first glance, talking about marketing in relation to architecture may seem "outrageous and senseless" given that the latter is considered as a major Art. However, if we examine the question closely, this high opinion could be

softened. Let us recall that the very definition of marketing puts forward the notion of means and actions that stimulate and induce the sale of a product or a service (Le nouveau Petit Robert, 1993 : p.1523). To have the marketing spirit is to have a dynamic spirit with an optimal capacity of research and action. Moreover, the profession of an architect is just a liberal profession involving a project manager, a project owner (private or public) and, of course, a project. In other words, it is a question of a designer, a customer (client) and a "product" or "service", that is to say a project to propose with a financial counterpart. The sale of a product, or at least the adherence of the client to a given product, does not only depend on its quality or its relevance, but also inevitably on its way of presentation and its communication.

The primary objective of this course is to develop the student's oral skills. They must be able to develop a methodical, coherent, relevant and intelligible speech individually. It is also important to master certain communication processes and multimedia presentation software (F. Le Bihan et A. F. Cabouat, 2014 : p.12) such as Powerpoint, Prezi, Haiku Deck, CustomShow, SlideDog, Slides, Slidebean, Visme, Google Slides and Prezi Business in order to optimize the chances of convincing an audience.

In addition, this course aims to help the student analyze a professional situation so

as to imagine and elaborate a marketing development strategy. In order to boost their future company or firm, they must be able to decide on an action plan that integrates different communication and distribution media (media and hypermedia). They must be initiated to certain specific methodologies such as: services marketing, e-business, multi-channel direct marketing, e-brand strategy, etc.

For more efficiency, this course can present and analyze the experiences of some contemporary architects, space design or architecture firms (national or international). It can also include some mini-exercises of situations.

4.3 Management and professional organization

A course in management and professional organization has two major objectives. The first one concerns the acquisition of certain elementary and indispensable knowledge for the management and organization of the work of a company. The student is called upon to understand and elaborate administrative written documents, a tender file, an estimate, a purchase order and an invoice. They must also be introduced to certain notions related to the organization of their company such as: the laws governing the right to work (employment contracts, hiring, dismissal, etc.), withholding tax,

invoices, contracts, affiliation to the National Social Security Fund, etc.

The second objective is related to the young architect's profile. It concerns the development of their ability to influence and federate a group in order to achieve an objective. The student has to learn not only to manage deadlines, regulatory constraints, budget, duration in project management, but also to guide and lead a team, persuade, influence, inspire his professional entourage, etc. The content must be centered on the notion of leadership for a better assertion of the young architect and the development of their future career. In a company, the notion of leadership is essentially pragmatic. It " *aims to develop quality management which implies the adhesion of the members of the staff* " (L. Peeters, 2009 : p.28).

A leader, according to Freud, is " the person around whom the process of group formation crystallizes. In an earlier article, Fritz Redl proposes introducing the concept of a central person to designate, among the potential members of a group, the one who brings about the formation of the group through emotional relations to them " (L. Peeters, 2009 : p.27). Teamwork is important, but a leader will be needed to guide the group (P. Boffa-Comby, 2017 : p.7).

The methods of application of this teaching should combine theoretical

knowledge with application and simulation exercises.

4.4 English applied to the architectural project

It would be relevant for the student to master the oral presentation of a personal project in at least two languages (French or Arabic on the one hand, and English (otherwise another language) on the other). The objective of an English course applied to the architectural project is to encourage the future architect to practice this language in order to communicate and defend their projects orally in a professional environment that is increasingly open to the outside world.

The didactic content is focused on knowledge of vocabulary and specific terminology in English applied to the project. The student must be put in a situation where they will be required to use this language exclusively to do research on different media (books, magazines, websites, etc.), sort and organize information, express themselves, describe, present a project and defend it orally in front of a jury. knowledge must relate to the whole process and all the possible constraints of a project. They must be able to communicate their approach, their thinking, their analysis, their contacts with different stakeholders and trades related to architecture.

The didactic approach must be crowned each semester (from the second year for example) by an oral presentation of a coherent and professional speech about their project in front of a jury with the development of sheets and explanatory boards.

The student presents his project in French or Arabic, then in English. The jury will be composed of architects and the English teacher. The latter is responsible for evaluating the student's presentation in English as well as their responsiveness to criticism and questions.

A similar experiment was done at the Higher Institute of Fine Arts in Nabeul with second year students of the professional master's degree in craft creation. As president of the evaluation jury and pedagogical coordinator, I was able to perceive the students' diligence and the efforts of their language teacher.

4.5 Architecture and Design «s»

Thinking about contemporary architecture often refers to thinking about certain specialties of Design, in a variable and relative way with each type of project (whether private or public) : commercial, cultural, educational, hospital, etc.

In this course, the student will be brought to grasp the possible opening of architecture on Design. However, the term Design, which is supposed to be invariable, is to be considered in the plural

and not in the singular. In fact, it is appropriate to add an "s" to the term Design in order to underline a range of specialities, sub-specialities (whose borders are sometimes blurred or permeable), domains, fields of action, etc.

Design is also a concept, an attitude and a creative process. We like to speak about: Design Thinking, Design and Complexity, Global Design, Emotional Design, Sensory Design, etc. Architecture is not Design (A. Zublena, 2018), but a future architect must be aware of the possible relationships that can link them both on a theoretical and practical level.

The objective is also to arouse the student's curiosity, and to guide them in the search for possible, fruitful and creative complementarities between Architecture and Design in its plural acceptance. Design is a multitude of specialties and approaches in direct or indirect relationships that are more or less powerful with an architectural space. It would be a question of Urban Design, Space Design (Interior Design and Scenography), Furniture Design, Graphic Design, etc. The elementary theoretical knowledge must be enhanced by the analysis of the existing cases and the key experiences of architects, with the possibility of developing mini-projects.

5. CONCLUSION

The internship in the professional environment seems to be insufficient to prepare the student for the reality and the difficulties of the profession. This internship, though quite long in terms of duration (eight months), does not seem to be able to "cushion the shock" of the transition from the academic to the professional environment. The preparation for the professional life should be done much more thoroughly, from the beginning of the university curriculum, and not at the end, by setting a progressive level of requirements. The reflection should be done before the graduation day in architecture by analyzing the situation and the reality which follow it.

Preparation for working life should be done much more thoroughly at the beginning of the university curriculum, and not at the end, by setting a progressive level of requirements. The reflection should be done before the day of graduation in architecture by analyzing the situation and the reality that follows it.

Architecture is a very special discipline. It is at the borders of art, science and technology. The student's academic training in architecture must be in phase

with a world that is evolving, and that is attentive to its environment. The

relationship between knowledge and market demand has major stakes.

The proposed approach is two-pronged: the pedagogical model and the didactic content. The pedagogical model no longer seems to be based on the teacher-disciple method of learning, but rather on more openness, dynamism, observation and adaptation to the reality of architectural practice at the national and international levels. In this sense, the advantages of group teaching and a more multidisciplinary approach should be emphasized through exercises, mini-projects, workshops and competitions.

Moreover, bringing the future architect closer to the professional reality should be achieved through a review of the courses offered in the transversal and optional units from different points of view: subject choice, didactic content and methodology of approach. Certain facts are no longer to be neglected, such as the metamorphosis of the architectural profession, the increasingly entrepreneurial nature of the profession, the technological and cultural evolutions that the contemporary society is undergoing, etc. It is imperative to take them into account and to work methodically to overcome certain gaps.

In addition to the fundamental units, it seems judicious to recommend more demanding and more relevant transversal and optional courses in terms of content,

approach and objectives. They must be articulated and wrapped up in an applied character specific to architecture in its contemporary practice. The pedagogical team must be alert and have a constant focus on the current reality and the future of this profession. Several perspectives and openings should be targeted including: marketing and communication technologies applied to architecture, management and professional organization, English applied to the architecture project, site visits, monitoring and management of construction sites, architecture and design.

However, undertaking such an approach requires the establishment of an adequate platform to carry it out and bring it to fruition. Material, financial and logistical resources are certainly necessary, but the most important and most delicate would be the "human" resources, in other terms, the pedagogical team. It is crucial to consider the potential of the human factor in order to evaluate the success rates of an action.

The reflection is now to be focused on the professors themselves. How do we choose the members of a jury and what criteria should be taken into consideration? How to choose a professor for a given subject? Will it be enough to consider their speciality only? Would it be more judicious to consider their potential, their capacity for development, self-

evaluation and self-criticism and their ability to push students to progress? Will it be necessary to provide specific training to ensure and enhance the performance of professors in the institutes of architecture ?

The reflection should also be directed towards the very essence of the function and the role of the professor at architecture universities today. From now on, the pressing question that gnaws at us, and that surely gnaws at so many educators and researchers, concerns the very definition of a good professor, or rather, the definition of a professor? Should it be: a pedagogue, a scientist, a coach, a trainer, a facilitator, a researcher, a psychologist, a leader, a technician? Should they be one of these or all of them at the same time ?

5. Bibliography List :

1. Books :

- Aristote (1997), *Éthique à Nicomaque*, trd J. Tricot, Vrin, France.
- Blondel J. F. (1771), *Cours d'architecture ou traité de la décoration, distribution & Construction Des Bâtiments : Contenant Les Leçons données en 1750, & les années suivantes par J. F. Blondel, Architecte, dans son École des Arts., Tome premier*, Desaint.
- Boffa-Comby P. (2017), *Le leader collectif – un nouvel art du pouvoir*, Dunod, France.
- Boudon P. (2003), *Sur l'espace architectural - Essai d'épistémologie de l'architecture*, Parenthèses, France.
- Caye, P. (2017). BLONDEL, Jacques-François : 1705-1774, Dans : Carole Talon-Hugon éd., *Les théoriciens de l'art*, Presses Universitaires de France.
- Conrads U. (1996), *Programmes et manifestations de l'architecture du XXes*, Ed. De la Villette, Paris.
- Hegel, *Esthétique*, Tome premier 1835 (posth.), trad française Ch. Bénard, éd. Électronique D. Banda.
- Hegel (1997), *Esthétique*, Tome II, LGF.
- Houichi M. S. (s.d.), *Le halo didactique*, Dar el maaref, Tunisie.
- Le Bihan F. et Cabouat A. F. (2014), *Présentation Design – Convaincre, réaliser des présentations percutantes et mémorables pour convaincre votre public*, Zen Business, Espagne.
- Peeters L. (2009), *Méthodes pour enseigner et apprendre en groupe*, De boeck, Belgique.
- Perrault C. (1674), *Abrégé des Dix livres d'architecture de Vitruve*, Éd J. B. Coignard, Paris.

Plaut V. (2015), Les métiers de la création et du Design, L'étudiant, France.

Le nouveau Petit Robert (1993), Nouvelle édition remaniée et amplifiée sous la direction de J. Rey-Debove et A. Rey. Paris.

عمار ع. ر. (2017)، التعليم والتعلم في الجامعة، مركز النشر الجامعي، تونس.

2. Journal article :

Caye, P., « L'architecture est science », in Hal science ouverte 2021. <https://hal.archives-ouvertes.fr/hal-03495697/> (consulted on 26/06/2022).

De Montlibert C. (1974), « Les Architectes. Métamorphose d'une profession libérale, par Raymonde M. et a., [Compte-rendu] » in la Revue française de sociologie.

Gharbi C., The architects on the brink of the abyss: Reforms are needed, La presse.tn, published on 07/06/2021. <https://lapresse.tn/99558/les-architectes-au-bord-du-gouffre-des-reformes-simposent/> (consulted on 29/06/2022).

Hamza A. (2020), Sahby Gorgi Président du Conseil de l'Ordre des Architectes de Tunisie : Les architectes en colère, La Presse.tn, publié le 20/07/2020. <https://lapresse.tn/68628/sahby-gorgi-president-du-conseil-de-lordre-des-architectes-de-tunisie-les-architectes-en-colere/> (consulted on 29/06/2022).

Zublena A. (2018), « Architecture ou design ? », in Le dossier de la lettre de l'Académie des Beaux-Arts, Institut de France. http://www.academie-des-beaux-arts.fr/lettre/dossier_lettre68/Architecture_ou_design_.html (consulted on 12/02/2022).

3. Seminar article:

Renault E. (2022), Démocratiser le travail, in : Donaggio E., J. Rose & M. Cairo (Dir), Travail e(s)t liberté, : Érès, Toulouse.

4. Internet websites:

The Universal Declaration of Human Rights, on the United Nations website. <https://www.un.org/fr/universal-declaration-human-rights/index.html> (consulted on 16/06/2022).

The United Nations website. <https://www.un.org/sustainabledevelopment/fr/2017/04/20/lunesco-propose-une-serie-de-mesures-pour-rendre-lenseignement-superieur-plus-equitable-et-abordable/> (consulted on 16/06/2022).

International Convention on Economic, Social and Cultural Rights. <https://www.un.org/fr/impact-universitaire/enseignement-sup%C3%A9rieur> (consulted on 16/06/2022). <https://www.un.org/fr/impact-universitaire/enseignement-sup%C3%A9rieur> (consulted on 16/06/2022).

<https://www.webdo.tn/2021/07/02/tunisie-bac-2021-session-principale-un-taux-de-reussite-de-4430/> (consulted on 15/06/2022).

<https://www.ilo.org/global/lang-fr/index.htm> (consulted on 15/06/2022).

<http://www.ins.tn/publication/indicateurs-de-lemploi-et-du-chomage-troisieme-trimestre-2021> (consulted on 29/06/2022).

<http://www.enu.rnu.tn/textes-reglementaires-enu/> (consulted on 17/06/2022).

<https://www.universalis.fr/encyclopedie/vitruve/> (consulted on 18/06/2022).

<https://www.ilo.org/global/topics/skills-knowledge-and-employability/lang-fr/index.htm> (consulted on 26/06/2022).

Le dictionnaire de l'académie française, 9ème édition, Édition numérique.
<http://www.dictionnaire-academie.fr/article/A9A2432> (consulted on 26/06/2022).

Manifeste du Bauhaus de Walter Gropius, Encyclopædia Universalis [en ligne], <http://junior.universalis.fr/document/manifeste-du-bauhaus-de-walter-gropius/> (consulted on 28 /06/2022).

<https://www.codeur.com/blog/logiciel-de-presentation/> (consulted on 26/06/2022).