



Mainstreaming technical competences in professional projective capacity, within integration of Bachelor's and Master's degrees in Architecture training to professional itinerary.

Integración del Grado y Máster en Arquitectura en un itinerario a la profesión mediante la inclusión de competencias técnicas de capacidad proyectiva profesional.

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Recibido: 05/10/2023 | Aceptado: 02/11/2023 | Fecha de publicación: 30/12/2023
DOI: 10.20868/abe.2023.3.5204

HIGHLIGHTS

- Acquisition of professional competences is the common link between Bachelor's and Master's degrees.
- Full executive project document includes full professional competences.
- Integrated project not only faces the global challenge, but also the technical documents.
- Integration of competences between degrees improves the student's self-perception.
- Training in simulated environments improves intuition in the project response.

TITULARES

- La adquisición de competencias profesionales es el nexo común entre Grado y Máster.
- El documento de proyecto básico y ejecución incluye competencias profesionales plenas.
- El proyecto integrado no sólo enfrenta el reto global, sino los documentos técnicos.
- La integración de competencias entre titulaciones mejora la autopercepción del estudiante.

- El entrenamiento en entornos simulados mejora la intuición en la respuesta de proyecto.

RESUMEN

La metodología IPBL está orientada según una actuación realista que sitúa al estudiante en un proceso en condiciones similares a las que se va a enfrentar en un encargo profesional real. Desde el curso 2020-2021, la Escuela de Arquitectura de la Universidad Europea de Canarias se enfrenta a una serie de retos globales propuestos por diferentes organismos, retos dentro de los cuales se integran diferentes asignaturas de todas las áreas de conocimiento de la Arquitectura. Integrando en un proyecto global el desarrollo de las competencias profesionales completas en Arquitectura -aquellas necesarias para desarrollar un proyecto básico y de ejecución- en asignaturas del Grado en Fundamentos de la Arquitectura y del Máster en Arquitectura. Para ello, se han distribuido a través de diversas asignaturas conectadas entre el grado y el máster, potenciando la adquisición de competencias profesionales y competencias personales. La integración técnica de ambas titulaciones desde la capacidad documental profesional del proyecto básico y de ejecución ha sido estudiada por comparación directa tanto en secuencia temporal de implantación, con notables mejoras de calidad documental técnica, autopercepción y capacidad de respuesta intuitiva a proyecto.

Palabras clave: *Profesional, carrera, currículo integrado, itinerario, proyectivo.*

ABSTRACT

IPBL methodology is based on a realistic approach that places students in a process in conditions similar to those they will face in a real professional assignment. From the academic year 2020-2021, the School of Architecture of the UEC is facing a series of global challenges proposed by different organisations, challenges within which different subjects from all areas of knowledge of Architecture are integrated. Integrating the multiple challenges demanded by project-based learning, the development of the complete professional competences in Architecture -those necessary to develop a basic Architectural Project and its execution- in subjects of the Bachelor's Degree in Foundations of Architecture and the Master's Degree in Architecture have been distributed through different subjects connected between the Bachelor's Degree and the Master's Degree, promoting the acquisition of professional and personal competences. The technical integration of both degrees from the professional documentary capacity of the basic and execution project has been studied by direct comparison both in time sequence of implementation, with notable improvements in technical documentary quality, self-perception and intuitive response capacity to the project.

Keywords: *Professional, career, integrated curriculum, itinerary, projective.*

1. INTRODUCTION.

Although architecture is the most enduring material cultural construct across history, the professional practice of architecture depends on nowadays legal & normative compliance. In today's turbulent early 2023, the shift from VUCA - Volatile, Uncertain, Complex and Ambiguous - to BANI - Brittle, Anxious,

Nonlinear and Unpredictable - environments (Pertusa,2023) an emerged concept in business management and strategy to describe actual changes in the business environment.

The term VUCA has long been used to describe complex and changing business environments. However, in recent years, some experts have suggested that the term VUCA is no longer

sufficient to describe the nature of today's business environment, especially after the COVID-19 pandemic and other recent disruptive events (Pertusa, Op. Cit.).

Since the professional practice of Architecture is, occupationally, a business practice, it is necessary training in architecture be as realistic as possible in relation to professional career, as architects have an important responsibility in the construction of the built environment and in the improvement of people's quality of life. Architecture is not only an artistic discipline, but also a technical and practical discipline that requires solid skills and knowledge in areas such as construction, engineering and project management. Therefore, a realistic teaching of architecture involves providing students with a practical and tangible experience, which allows them to understand the relationship between theory and practice in architecture (Clavería,2017). Students should have the opportunity to work on real projects and face real-world challenges in order to develop skills and competences important for their future career. (Pertusa,2023)

In addition, real-profession-oriented architectural education is also necessary to ensure the safety and well-being of the people who will use the buildings and spaces designed by architects. Architects have a responsibility to design buildings that are safe, sustainable and energy and environmentally efficient, global problems at all. Realistic education includes technical knowledge and skills is essential to achieve these goals (De la Portilla,2023).

2 TRAINING DIFFICULTIES

2.1 Training difficulties on tech documents

Although there are still some Schools of Architecture in Spain which develop their

training in the ancient Bologna-1 plan -a unique degree consisted of a Bachelor's Degree of 330 ECTS including the final degree project- nowadays the vast majority develop their training itinerary from two sequential degrees: (Eurydice,2021)

a) Bachelor's Degree in Fundamentals of Architecture: 5 years (300 ECTS) including a final degree project.

b) Master's Degree in Architecture: the professional level of studies with one year (60 ECTS) and is focused on the specialization of knowledge acquired in the degree towards professional practice. In addition, a final project is included in which students must design and develop a complete architectural project.

However, the approach towards the profession is a continuous difficulty due to the breadth of training necessary to face the difficult beginning of the regulated profession of architect (Navarro & Caven, 2012) since the duration of the studies is limited and, if we wanted to face not a complete training, which is already developed, but a total one, the duration would exceed, by far, 7-9 years on average, which is pretty inoperative.

2.2 Training difficulties on professional starting practice.

In addition, students must face difficulties when entering the job market not due to a lack of technical preparation, but, to the lack of integration between university training and the reality of the working practice of the architect's profession, some of the most frequently cited are (Arquia ,2020):

1. Lack of experience: employers often look for candidates with previous industry experience.

Recent graduates may find it difficult to get a job because they have no previous experience.

2. Lack of business knowledge: architecture students often focus on design and theory but may have a limited understanding of how building business works. This can make it difficult to build a successful practice.

3. Changes in the industry: building industry is constantly changing, and students need to keep up to date with the latest developments and trends. If they do not keep up to date, they may miss out on opportunities in the market.

4. Lack of contacts: networking is crucial in any industry, and architecture is no exception. Recent graduates may find it difficult to find a job if they do not have a well-established network of contacts in the industry. (Pertusa, Op. Cit)

To overcome these difficulties, architecture students should focus on developing business skills, seeking internship and practicum opportunities, and establishing a solid network of contacts in the industry (De la Portilla, Op. Cit.). In addition, they should continue to learn and keep up to date with the latest trends and developments in the field.

The academic model based in experiential learning in the School of Architecture of the European University of the Canary Islands as an iPBL methodology, a response to these requirements. This iPBL methodology (integrated project-based learning) is a teaching process focused on the development of practical skills and learning through interdisciplinary projects and makes learning more effective when students are faced with complex and real challenges that force them to apply theoretical knowledge in practical situations (López-Arquillo, Oliveira, Serrano y Cadenas, 2023) applying at a professional

documentary level in response to the proposed challenge.

3 KEY OBJECTIVES

Main objective of this innovative teaching practice is an overall integration in continuity of the Bachelor's Degree in fundamentals of Architecture and the Master's Degree in Architecture as a fundamental work of the integrated curriculum focused on capacity for formal research and architectural technical development.

Subsequent objective is achieving full professional tech competences students will need in the integration into the profession of architect: complete urban and executive project, at the level demanded in public administration. This development is unfeasible – due to its extension - in a single subject, and not relating it to other subjects from different branches makes it very incomplete. For this reason, this innovative teaching practice developed breaks down this professional document in several subjects, integrating every discipline applying in the Urban and Executive Project.

In addition, the experience has been characterized as its characteristic improves access to professional practice in a business level entail:

1. To improve students' understanding of clients' needs and expectations, including an understanding of the legal, technical and economic requirements of a construction project and the extensive legal compliance that must be justified.

2. Develop negotiation and integrated conflict resolution skills to enable students to work effectively with clients, municipal technicians and other members of the construction team.

3. Encourage the development of project management skills so that students can plan, monitor and control the progress of projects and ensure that deadlines and budgets are met, in particular, using project management software and online communication and collaboration tools.

4. To instil in students a strong professional ethic, including social and environmental responsibility, integrity and accountability to client needs and expectations.

Within this unique combination of general, specific and characteristic competences, learning outcomes of each of the subjects involved, as the scope of the experience allows a clear direction to be set for the project to move towards. (González ,2014).

Main difficulties perceived	% of participants considering it
understanding of clients' needs and expectations, understanding of others	90%
negotiation and integrated conflict resolution skills	72%
project management skills	36%
professional ethic, social and environmental responsibility, integrity and accountability	62%

Table 1: proportion of students who recognize the professional difficulties raised to be improved in this teaching innovation. Survey of all 24 participating students

Definition of specific objectives allow focusing the efforts and project resources on the relevance areas and necessary to achieve as professional capacity to draft urban and executive building project plan (Campo Baeza, 2017). In addition, defining objectives of this teaching innovation project allow team

members and other project stakeholders to understand the goals to achieve.

4 METHODOLOGICAL BASES

The teaching innovation was developed during the academic years 2020-2021 and 2021-2022, and has been based on a set of strategies and tools that, from the academic model of experiential learning of the European University, advance in the direct relationship between the exercises proposed and the professional documents of habitual development in the exercise of the profession:



Figure 1: initial visit to site in Santiago del Teide, September 2021, with the students of the subjects enrolled in the teaching innovation project. From the author

1. Continuity between three technical training subjects of the Degree in Foundations of Architecture and the Master's Degree in Architecture: "Technology Projects Workshop" of the 5th year of the degree, and "Technology Workshop" and "industrialized building" of the master's degree. This continuity is achieved by subdividing the complete content of a basic and execution project developed at the level of public administration between these three subjects.

2. Development of the three subjects on the same basic architectural project, developed in projective subjects, which is maintained as the basis of work for two academic years.

3. Multilevel projection, as it is not only developed in association with these three subjects, but the basis of the work is a previous

architectural and urban project that comes from the "architectural projects" subjects of the 5th year and the "projects and urban planning workshop" of the master's degree.

These specific strategies have been implemented as an innovative project for innovative learning in the field of architecture, focusing on the necessary connection between bachelor's and master's degrees as a means of improving professional skills through not only conceptual but real continuity between the two programmes.

The survey methodology used to measure the achievement of learning outcomes is based on a quantitative approach. A structured questionnaire including multiple choice questions and rating scales was designed to collect quantitative data on the level of understanding and application of key concepts of improving to access to professional practice after the project.

The survey has been disseminated before and after the instructional period to assess individual and collective progress, thus enabling an accurate assessment of whether students have achieved the desired professional access level in relation to academic learning outcomes. (Lizzio, Wilson & Simons, 2002)

5 DESCRIPTION OF THE EXPERIENCE

The practice has been carried out to be developed each two academic years, so that the students take the fifth year of the Bachelor's Degree in Foundations of Architecture, and the Master's Degree in Architecture the following year. Thus, the IPBL (integrated project-based learning) methodology is oriented towards integrated vocational training, with conditions similar to those faced in a real professional assignment, but with a projective approach to

research. It is a multi-level integrated learning work lab, where students teamworks and receive guidance and support from teachers and mentors. Students have the opportunity to apply theoretical knowledge in practical situations, which allows them to develop skills and competences important for their future career (Nava ,2009).

Moreover, the process of on-site analysis facilitates an innocuous and non-interpretative approach, outside of the emotional conditioning factors that are established in tourist visits (Correia, Oliveira &Pereira, 2017).

But they also have to consider what they have to know how to do at the documentary level. Therefore, within this work structure iPBL has developed a professional teaching innovation project for the inclusion of full project drafting skills from the integral figure of basic and execution project, at the level required by the public administration, from the integration of the necessary skills in a sequential and combined way between the degree and the master's degree in Architecture.

Degree in Fundamentals of Architecture	Master's Degree in Architecture
G7 Architectural Projects Workshop	Technology Workshop
Technology projects workshop.	Industrialized building
Final Degree Project	Architectural Final Project (PFC)

Table 2: subjects included in this teaching innovation project.

With the inclusion of these subjects, a mixed action of sharing is carried out between the subjects, from the distribution of full documents composing up the basic and executive project, according to the alignment between the learning results defined in the degree and the documents composing this reference of technical documentation:

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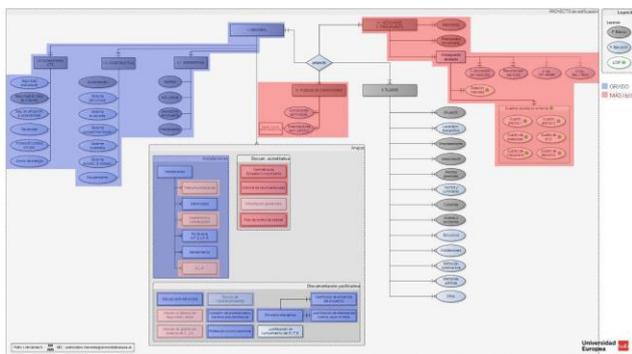


Figure 2: subdivision of the total number of technical documents that make up a Basic and Execution Project between subjects of the Bachelor's Degree in Fundamentals of Architecture (blue) and the Master's Degree in Architecture (red). (authors: PIHG, JDLA)

The pillars of the academic model of European University of the Canary Islands are deeply understood and assumed, turning the work sessions into mixed sessions of interaction between subjects and documents to be developed later in the professional stage. Academic staff helps to each group while the drafting of professional documents becomes the basic tool for learning.

Intervention of students and follow-up is guaranteed, as they learn and apply the principles of the drafting of official technical documents, presented by the professors in lecture sessions, through enjoyable sessions of modelling and layout beforehand. Through external collaboration with professional seminars (at technical prescriber level) teamwork and site visits and visits to professional bodies (Rebolledo, Castillo y P.R., 2017) learning sessions are carried out based on documentary challenges, from the general idea to the model + solution + implementation + documentary development at the basic project and executive level in two phases:

5.1. First academic course implementation.

Across this first year, within included subjects in the project, the professors provide technical documentation of real projects drafted by them in their professional practice, so that they can apply the theoretical knowledge in practice in a comparative way and thus develop their technical skills of basic project drafting and execution on real comparative capacities (Andreasen, Hansen & Cash, 2015) Although architectural drafting is usually a team effort, it is important that the teaching experience encourages students to work on their individual skills. This will allow students to learn to work in teams with individual responsibility, but with a great capacity for negotiation, which is essential in professional practice. (Sánchez Ostiz ,1995)

1.Common phase (all courses)	2. Specific phase (developed practice for 5th degree course)
1.1.Measurement (numerical) and comments (analytical) on employment level of last course alumni.	2.1. Definition of a multi-scale project in the subject Architectural Projects G7, in the 5th year of the Degree in Foundations of Architecture, integrating several challenges proposed to the School and several subjects, in a transdisciplinary way. It is developed in the first semester.
1.2. Meeting with the municipal technical managers to prepare statements of the challenges, according to municipal needs.	2.2. Presentation of the general outline of a Basic and Execution Project, at public administration level, with a breakdown of all the technical documents of the professional environment of which it is composed, y a develop on documents with BIM technology, building information modelling, a simulation environment in which the building is completely digitally constructed.
1.3. Projects are formulated for the	2.3. In the second semester of the first

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integration of different subjects in them. Municipal reports with needs are defined and each teacher chooses the most suitable one according to the competences associated with each subject.	academic year of the experience, in the Final Degree Project, an architectural piece is developed, a section of the project developed in Architectural Projects G7.
1.4. Visits to intervention sites.	2.4. Also, in the second semester of the first academic year of the experience, the first part of the Basic and Execution Project is developed in the subject Technology Projects Workshop (5th year of the Degree in Architectural Fundamentals).

Table 3: specific development action plan in the first academic year of implementation.

Main difficulty in phase 1 is personal assurance in the quality of the official technical documents produced, so constant feedback is necessary (Mc Clean & Hourigan, 2013). Professors provide constant and constructive feedback on their work, so that they can identify their strengths and weaknesses and continuously improve their personal confidence.



Figure 3: workshop on joint work with subjects from the degree programmes included in the teaching innovation project. From author.

5.2. Second academic course implementation.

During second year, the lecturers, -due to the University's academic model are active

professionals- update the orientation of the projects under development from the latest advances in technology, materials and construction techniques, in order to develop skills that are relevant in today's market of architectural services.

In this second stage of the project, an evaluative relationship is established based on clear and objective criteria. The teachers evaluate the final result and provide clear and constructive feedback that allows students to improve their technical skills of basic project drafting and execution in architecture.

Bachelor's Degree in Fundamentals of Architecture	Master's Degree in Architecture
a.1. During the Final Degree Project, an innovative research project is carried out, with the aim of innovative, that from in an integrated relates the competences of the entire degree program to each other, and in an integrated way, applies what has been developed in this architectural piece on which work is carried out in the Technology Project Workshop subject.	b.1. In the Master's Degree in Architecture, the remaining phases of the Basic and Execution Project are developed in the subjects "Technology Workshop" and "Industrialized Building".
a.2. Organization of working groups on cross-subject challenges.	b.2. As a final integration, a Final Degree Project is developed which is oriented in its objective and purpose from the conclusions objectified in the Final Degree Project.

Table 4: specific development action plan in the second academic year of implementation, referring to the programs according to the sequence in which they are implemented.

6 RESULTS

This teaching innovation project implies active actions at multiple levels:

1. At interpersonal level, the project contributed to a better cohesion between students and teachers, as they carried out group activities and experienced mutually supportive behaviour in the elaboration of team interventions during the workshop, related to individual subjects, it contributed to an improvement of the results of the semester CBL projects.

2. Experiences of the joint activities, both the site visit with its resulting in-depth knowledge of the respective areas of intervention, as well as the training of the...

3. "gymnastics" of creativity and critical thinking in the workshop, had a positive influence on the development of the curricular projects of each subject by stimulating analytical and project thinking to reduce psychological barriers and...

4. Creating an atmosphere of trust and mutual support, the project fostered a free and creative environment for the exchange of knowledge from different areas, supporting the...

5. Transfer of knowledge and encouraging the integration of results from academia into real urban and territorial planning processes through ideas generation to partners.

The experience has concluded with optimised achievements due to the integration of the learning outcomes associated with the Basic Project and execution in these subjects, also integrating the research of the final degree project within the Master's Degree Final Project, having also achieved that in all the subjects that promote this practice, concepts, ideas and project developments have been developed that are integrated into the processes of revision of the General Urban Development Plan according to Law 4/2017 on Land and Protected Natural Spaces of the Canary Islands.

These results have been referred to the related learning outcomes identification in academic plan:

1. Projects have been developed in response to global challenges posed by the IPBL methodology, with a holistic approach to the profession.

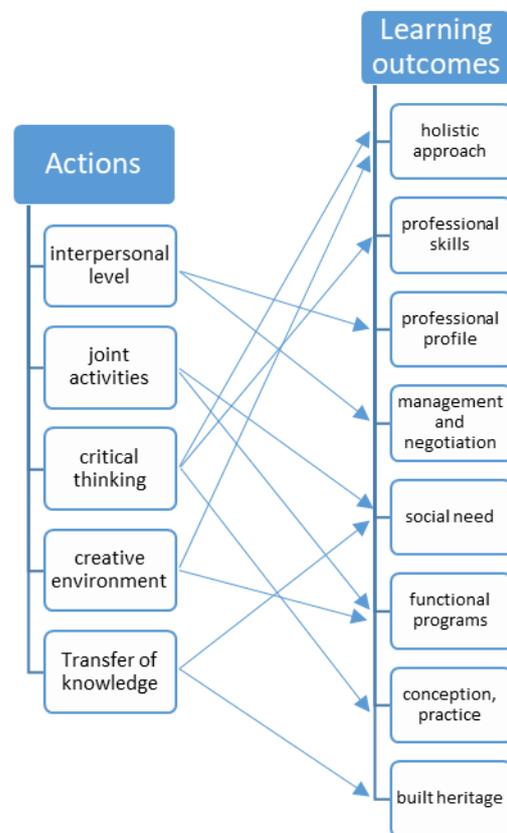
2. Full professional skills have been developed to be able to draw up a complete urban and execution project, at public administration level, combining technical subjects from the Bachelor's and Master's degrees.

3. Final degree project, conceptual and innovative in research, and the Final Degree Project, which from a professional profile integrates the subjects that develop the basic project and professional execution, have been related.

4. Develop soft abilities related to project management and negotiation, leading, monitoring and evaluating one's own intellectual capacities, including professional problem solving.

5. Satisfy a social need, which strengthens the student's values and commitment to the environment.

6. Students have a better knowledge of the methodologies for the conception, practice and



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development of basic and execution projects, sketches and preliminary projects.

7. Students have improved their ability to draw up functional programs for buildings and urban spaces.

8. Students are aware of the special difficulties in intervening in, conserving, restoring and rehabilitating the built heritage.

These 5 actions developed in the different phases focused on improving the transition to the start of the profession are competently related to the 8 learning outcomes associated with the integrated professional path between bachelor's and master's degree from the drafting of the urban and executive project. The relationship is not sequential in pairs, but multiple according to the implication of the actions in each of the competences.

Table 5: Conceptual model of the relation between actions developed in the innovation project and the learning outcomes defined at professional level for the integration of bachelor's and master's degrees.

In order to measure effectiveness of transformation from objectives into teaching results, a survey has been chosen to collect information from students, including questions on the effectiveness of the innovation, the strengths and weaknesses of the project, and any recommendations for future improvements.

With this survey, an evaluation of the results is carried out by means of a questionnaire, a summary form of activities, and a post-evaluation of verification from the collegial visa list on the documentation produced.

This survey asked about the consecution degree on the following learning outcomes:

Assessment Method(s)	Overall Results e.g., # passed, average scores, or number of qualitative assessments submitted

For the evaluation of the scope of the objectives of the program we have relied on an evaluation based on specific competencies . With them, a student's performance is measured against a goal, a specific objective or standard. Get more concrete data and conclusions about the teaching and learning process.	At the end of the program, a evaluator team have been carried out by questions directly stated from the defined 8 learning outcomes, with the question: What skills would you say you have learned and will be able to apply as a result of this innovative project? and from this question, an evaluation from 1 to 5. 24 surveys were conducted (21 students) with a scope greater than 90% of the total, with the following distribution (see table 4) Every item is valued with more than 3 over 5.
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Table 6: Competence assessment method

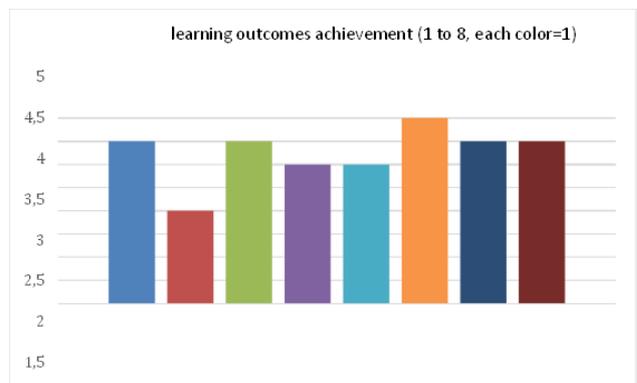


Table 7: Competence assessment results

7 DISCUSSION ON OBJECTIVES VS. RESULTS

Confrontation between the objectives of this teaching innovation, formulated on three levels and especially the characteristic objectives - as they are formulated in terms of relation to professional skills - and the results obtained, show that all of them have been achieved in a



comprehensive way.

Figure 4: final public presentation of works in an official ceremony with the Rectorate, the Mayor's Office of Santiago del Teide and the Department of Urban Planning, Environment and Coasts. From the author

Both at a general level by proposing from the university level a set of interventions and considerations that can be communicated and discussed with the local authorities, as well as being collected in a document, which can become an Action Plan in the framework of the EUA, and the fact of working from the university on the basis of interventions that have the potential to be collected in a project of national scope, with a real need and purpose, serves as a motivating engine for learning. (Rodríguez, Hudson y Niblock ,2018) Moreover, it can be considered a pilot project, a starting point for the subsequent introduction of transversal and collaborative activities among the curricular activities of the different subjects, including stress situation for students in formal presentation (Smith y Lilly ,2018). The activities outside the classroom and course, the direct contact with real places and issues, and the meetings with politicians and professionals from the architecture and urban planning sector, have contributed to a multi-dimensional learning with great impact.

Based on the results of the innovation project, main topics of interest are:

1. Integration of learning outcomes associated with Urban and Executive Project in related subjects has been successful in developing full professional skills to be able to draw up a complete basic and execution project at public administration level. This suggests that an integrated approach to learning can be effective in preparing students for real-world challenges.
2. Integration of final degree project within the Master's Degree Final Project has allowed for

the conceptual and innovative research to be related to a professional profile that integrates the subjects that develop the basic project and professional execution. This highlights the importance of incorporating research into professional practice.

3. Soft skills related to project management, negotiation, leading, monitoring, and evaluating one's own intellectual capacities, including professional problem solving, have been developed. This suggests that a focus on developing soft skills alongside technical skills can be beneficial in preparing students for professional practice. (Deutsch ,2020).

4. Offering different solutions of a social need to strengthen the student's values and commitment to the environment highlights the importance of social responsibility in professional practice.

5. Improved knowledge of methodologies for the conception, practice, and development of basic and execution projects, sketches, and preliminary projects, as well as improved ability to draw up functional programs for buildings and urban spaces, suggests that the project has been successful in developing technical skills relevant to the profession including different fields of practice (Henricksen, Mehta y Mehta ,2019).

6. Awareness of special difficulties to intervention and conservation built heritage suggests that the project has also been successful in developing an understanding of the challenges associated with preserving the built environment.

7. Overall, the results suggest that the project has been successful in developing a range of skills and knowledge relevant to the profession, including technical, research, and soft skills, as well as an understanding of the challenges

associated with preserving the built environment. The integrated approach to learning and the focus on social responsibility are also noteworthy outcomes.

8 CONCLUSIONS

Integrated project-based learning (IPBL) methodology is an educational innovation that is based on an integrated intervention for the different branches of the training of the architects of the future, for the development of knowledge and skills from an integrated response to specific needs arising from a complex problem at project level, and the need to achieve the ability to draft basic and implementation projects.

In this way, the students have linked the two degrees and have learned better by facing a real project with clear outline conditions - essential in this methodology (Rebolledo & Castillo, op. cit.) which integrates the learning results of the different branches of knowledge, in a similar way to how they will carry out their professional life, focusing on the professional nature of the Final Degree Project from the research nature of the Final Degree Project.

Based on the results of the research, here are some potential appropriate conclusions:

- The IPBL methodology appears to be an effective approach for developing projects that respond to global challenges, with a holistic approach to the profession.
- Soft skills related to project management, negotiation, leading, monitoring, and evaluating intellectual capacities, including professional problem solving, can be developed through this approach.
- Acquisition of technical skills, to be integrated into the general process of architectural projects - in particular the designing an

executive project - is significantly improved by developing this innovation in an integrated manner in the defined subjects of the bachelor's and master's degree.

To confront a problem in architecture and urbanism, it is essential to understand its complexity and interdisciplinary integration in depth. This implies having a global vision and the ability to create adequate interpretations of the intervention environment and the material means. The application of IPBL methodology helps us to develop these mental representations, where the numerous and intertwined cause and effect relationships that govern architectural and urban systems are organised. The ability to understand the repercussions of the decisions we make, which will very often develop in the distant future due to administrative procedures, is essential to understand and manage the complexity of the multidisciplinary integration involved in an urban and executive project, a professional tool that students must be trained to use and for which this teaching innovation has been developed.

9 ACKNOWLEDGEMENTS

Our sincere thanks to the City Council of Santiago del Teide, in particular to its Mayor, Mr. Emilio Navarro Castanedo, and the Councillor for Urban Planning and Environment, Ms. Luz Goretti Gorrín Ramos, for their valuable collaboration and support in our teaching innovation project, as the active participation of the proposing organisations are fundamental for the success of the methodology and significantly enrich the experience of our students and the positive impact on the community of the students' projects included in this teaching project.

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