

EDUCarq
Education Strategies with Architecture

Principal Investigator / PI
Margarida Louro

Integrated Researchers of CIAUD
Margarida Louro; Francisco Oliveira; Miguel Baptista-Bastos

Collaborating Researchers of CIAUD
Débora Patrocínio (to be allocated to the embryo project)

External Researchers
Eunice Seixas (SOCIUS-ISEG); Odete Palaré (Belas Artes); Ana Luísa Rodrigues (Instituto da Educação); Rita Brito (Universitas)

Keywords

Architecture, Space, Education, Formation

Partner Institutions
SOCIUS-ISEG; Belas Artes ULisboa; Instituto da Educação
ULisboa; Universitas-Cooperativa de Ensino Superior e

Investigação Científica
Expected Future Partner Institutions
Câmara Municipal de Oeiras; Ordem dos Arquitetos – Secção
Regional de Lisboa e Vale do Tejo

OBJECTIVES

- Awareness about the importance of the surrounding space motivating interest in architecture, urbanism and design as complete disciplines of technical and artistic expression;
- Studying and outlining education strategies with architecture applied to the context of children and young people from pre school to high school education levels;
- Collaboration with the educational community in order to enhance didactic tools of intervention and teaching with architecture;
- Promotion of teaching support material for the implementation of the proposed strategies;
- Monitoring of actions and optimization of intervention processes;
- Intensify the relationship between team members from different institutions and partners in the feasibility and implementation of the future project;
- Dissemination of research (completion of the production of a book, provide a scientific article with participation in conference) deepening and adapting / improving the application for a future funded project.

BIBLIOGRAPHIC REFERENCES

- Castro Seixas, E. (2021) *Urban (Digital) Play and Right to the City: A Critical Perspective*. *Front. Psychol.* 12:636111.
DOI: 10.3389/fpsyg.2021.636111
- Louro, M. (2020). *Architecture Stories in the Construction of Children's Spatial Conscience in: Modernity, Intelligence, Creativity and Fantasy*. CRC Press, Taylor & Francis Group, pp. 167-171, ISBN: 978-0-367-27719-2 (Hbk) ISBN: 978-0-429-29775 (eBook).
DOI: <https://doi.org/10.1201/9780429297755>
- McCall, A. L. (2011). *Promoting Critical Thinking and Inquiry through Maps in Elementary Classrooms?* *The Social Studies*, 102(3): 132-138.
DOI:10.1080/00377996.2010.538759
- Resor, C. W. (2010). *Place-Based Education: What is its Place in the Social Studies Classroom?* *The Social Studies*, 101(5): 185-188.
DOI: 10.1080/00377990903493853
- Rodrigues, A. L. (2020). *Digital technologies integration in teacher education: the active teacher training model*. *Journal of E-Learning and Knowledge Society*, 16(3), 24-33. [WoC/Scopus Q2]

ABSTRACT + IMAGES

The EDUCarq project emerges from the scope of the FAJúnior Office at the Lisbon School of Architecture (FAUL) of the University of Lisboa (<http://fajunior.fa.ulisboa.pt>) created and coordinated by the Principal Investigator (Margarida Louro), whose main issue is the outline of educational strategies through architecture, to be applied on children and young people in national contexts of preschool, primary and secondary education. This project expects to support the understanding of how this kind of strategies could contribute to establish an advanced critical conscience about the relevance of a higher quality of the surrounding space, stimulating also the promotion of new educational strategies throughout the creation of educational resources, in cooperation direct with crews of educators and teachers.

By incorporating experts from different areas, such as: architecture, education, management, sociology and design, we seek to promote an innovative strategy that emerges from this interdisciplinary knowledge and guided by the outlined goals, that will follow this method: 1st stage - critical framework meant to prepare the strategies and terms of the actions to be develop in school context; 2nd stage - staff training, oriented to the application of the strategies and actions; 3rd stage - conception and development of educational resources for the creation of an Educational Reference for Space and Architecture. This stage will endorse a synthesis through the critical analysis of the results of the previous ones, that will promote new educational strategies based upon architecture.

From this broader research (that was formalized in a project application, presented in 2020 on the Call for SR&TD Projects in all Scientific Domains FCT - ref: PTDC/CEDEG/1440/2020), this embryo project proposal will assume itself as a first approach through a simpler and more compact view that will be guided in the three following work fronts:

1. By classifying the various didactic material already developed by the research team at FAJúnior Office and listed followed, according to the different school groups from pre school to high school.
2. By operating from that specific view, intervention actions in school contexts.
3. By establishing a critical reading of this methodology, refining, from this small essay, the strategy to be developed in the broader research project proposal.

The diversity of the team is crucial for setting the innovation actions and form out educational strategies engaged with architecture. The team members from the FAUL/CIAUD (M. Louro; F. Oliveira; M. B. Bastos), coordinators of the FAJúnior Office, with a large experience in implementing innovative actions based upon architectural challenges applied with children in different contexts, will be crucial to the project. The participation of a researcher tied to the area of teacher education, didactics, and digital technologies of the Institute of Education (A. Rodrigues), will be fundamental in this project, since it fits into the area of educational sciences in addition to the area of arts in which researchers from the Faculty of Architecture and the Faculty of Fine Arts (O. Palaré) will play a major role. Other relevant member is from the Higher Education and Science Institute (R. Brito), adding expertise in kindergarten teachers and primary school teachers. The participation of the researcher E. Castro Seixas, with a background in Health and Social Psychology and with a PhD in sociology, brings a fundamental contribution concerning the critical awareness of the place environment in the educational process, from the perspective of the social studies, as expressed in the CRICity Project: "Children and their right to the city: combating urban inequality through the participatory design of child-friendly cities", which engages a tight cooperation with the FAJúnior.

About the state of the art, two major groups stand out: works on education with Architecture for Children and Young People and Works on Pedagogies and Teaching.

The method will be supported by case studies developed in school clusters. The study context will be the municipality of Oeiras, as a partner in the research project and a strategic element of access to the field of study and mediation between the various stakeholders.

The dissemination activities will be engaged, concerning the outcomes of the planned activities and produced resources, and from the promotion of a consciousness of the relevance of space quality, especially in the encouraging of collaborative and transdisciplinary practices within other communities and schools.

This embryo research project aims to drive a response to meet the problem that emerges from the lack of a critical consciousness about the relevance of an architectural sense of space embedded in the current educational practices with children and young people.

DIDACTIC MATERIAL DEVELOPED BY THE MEMBERS OF THE TEAM AT THE FAJÚNIOR OFFICE

More info: <http://fajunior.fa.ulisboa.pt>

BOOKS



THE HOUSE OF THE FUTURE
A story about sustainable architecture aimed at children and families.
+6 YEARS



DOODLING IN ARCHITECTURE, URBANISM AND DESIGN
A book to draw and conceive spatialities.
+5 YEARS



A FAMILY OF DOORS
A story for kids and adults about the sense of the rehabilitation of buildings.
+6 YEARS



CUT OUT ARCHITECTURES
Using the Kirigami technique a book to cut out objects, buildings and cities ...
+8 YEARS

COMPETITIONS



THE HOUSE OF THE FUTURE
A challenge to encourage children to design a house for the 22nd century!
1st AND 2nd CYCLE



MY STREET
Photography contest encouraging critical eyes on the surrounding urban space.
HIGH SCHOOL



BASIC FORMS
Composition challenge by cutting and pasting three basic shapes...
PRE SCHOOL



FROM MY WINDOW... looks at the lock down
Photo contest in the context of covid 19.
3rd CYCLE AND HIGH SCHOOL

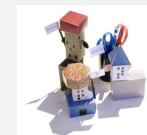
GAMES



ARCHITONARY
Through design, teams have to guess concepts related to architecture.
+7 YEARS



HOUSES AND SCALES
Game presented in cartoon format with play activity for children.
+4 YEARS



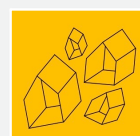
ARQUIBE
Construction of an architectural being from three parts: base, body and top!
+5 YEARS



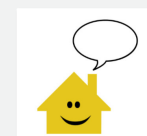
DOODLING
Graphic challenges on themes of architecture, urbanism and design...
+5 YEARS



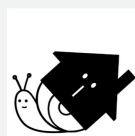
CUT OUT ARCHITECTURES
Paper cutting and production of different shapes of objects, buildings and cities!
+8 YEARS



PIXEL CITY
Folding a strip of paper and volumetric aggregation in a built set.
+2 YEARS



MY HOUSE HAS A WORD TO SAY
3D illustration of the word that best describes the house where we live ...
+6 YEARS



HOUSE SHELL
From the 19 covid pandemic construction of a shell that protects our body.
+6 YEARS

SCIENTIFIC RELEVANCE FOR THE DISCIPLINE

About regard to the scientific relevance of the proposed research theme for the discipline of architecture, the contribution of this project will reinforce the various institutional actions carried out by professional entities, both national and international.

In the national case, the Puema program which was published by the Portuguese Architects' Association in 2019, aims to institutionalize, along with the profession of architect, the importance of education with architecture.

At the international level, the program of the International Union of Architects (The Architecture and Children Work Program, UIA) implemented since 2008, also directed to the education of children with a set of actions in which the publication Built Environment Education Guidelines stands out.

In this way the EDUCarq project will reinforce the relevance of these approaches and their viability through an innovative cooperation between the scientific knowledge, the universities, and school communities.

EXPECTED ECONOMIC AND SOCIAL IMPACT

Framed by the objectives established for this research project and above all by the relevant performance with the school communities (both at the level of students, teachers and educators), it is expected in social terms the strengthening of this cooperation in order to encourage a conscience critical about the surrounding space.

In this way, raising awareness of the importance of spatial quality from a young age will certainly train future young people and adults more demanding at the level of this spatial literacy, which will undoubtedly result in greater critical quality in future terms, which could bring advantages in environmental and consequently at economical terms.

Summary, promoting an interactive cooperation between the scientific and academic communities and the social and school communities will undoubtedly be the main strategy in the motivations of this project in terms of future impact in both at economic and social terms.

RESEARCH PLAN AND TASKS

The presented research plan and the respective development tasks refer to the methodological strategy and task assignment of this embryo project planned for about 18 months of work, and which assumes itself as a testing ground for the methodology and future work plan.

As a working methodology, both in the broader future project as in the embryo project, the main methodological approach is based on Participatory Action Research (PAR), which entails a cyclical process of knowledge production, moving from action/experience to reflection and back again. The participatory emphasis of this approach is grounded on a number of ontological and epistemological assumptions, namely: the value of local knowledge and experiential knowledge; the idea that knowledge is the result of collaborative work by all the people involved in the research, including the local communities; and that social research should critically address fragilities and bring practical benefit for the participants and their communities.

In this way, the extended project and as already mentioned in the presentation of the abstract (panel 1) falls into three levels of development that will be objectified in methodological terms and corresponding tasks in the following, stages:

Stage 1 - EDUCarq: Critical Framework. This phase will consist of the preparation of the intervention action to be carried out in the 2nd phase of the project, which will involve the practical application of educational activities with architecture in the training of children and young people from pre-school education to secondary education. Following a PAR methodology, this stage, like the subsequent ones will be developed with all the participants as well as the local communities, valuing local and experiential knowledge as well as the interdisciplinary scientific knowledge of the research team.

Stage 2 - EDUCarq: Application of strategies and training development. This phase will involve of the application of execution strategies, according to the intervention scenario, outlined according to the contexts and selected techniques.

Stage 3 - EDUCarq: Creation of educational resources and education with architecture reference.

This phase will be the most widespread segment of the project and will embrace a synthesis period that will promote, through the critical analysis of the experimentation strategies applied and the training actions undertaken in the previous stages, the formalization of specific actions to address its future implementation in educational strategies with architecture. In this way, the central task of outlining intervention strategies and systematizing objectives and literacy skills for space and architecture is endorsed in this fundamental phase, through the production of a package of pedagogical and didactical resources, such as manuals, books, ebooks and tutorials, as well as the building of an Educational Reference for Space and Architecture.

From this broader framework to a future research proposal, this embryo project will rehearse in a more compact way the following development phases that will last in a total of 18 months:

1. Classification of teaching activities - This approach will last for 4 months and will have as its main objective the critical classification of the various didactic activities already developed by the research team at FAJúnior Office and listed at panel 1, according to the different school groups from preschool to high school levels. It will be a work phase in which the interdisciplinarity of the different team members will be fundamental in testing the different methodologies of collaboration and approach to the problem.

2. Performance in school contexts - This action will last for 8 months and will operate within the context of the activities listed and appropriate in the previous phase. It is a specific intervention action in the practical context of school communities. In this sense, in addition to the co-operation between the various members of the team and their contributions, both in terms of formalizing activities and in educational implementation strategies, it will be a significant moment to set up relations with groups of school communities (teachers and educators) in which the context of the municipality of Oeiras will obviously have a primary place.

3. Critical reading of this methodology – This refining will last 6 months, from this compact essay, will define the main points of the strategy to be developed in the broader research project proposal.

In this sense, we established the following dissemination actions:

- A critical report to be produced at the end of the three work phases, on the applied process and the result obtained in each of these research segments.

- From the item before it will project a participation with communication and consequent publication of a paper in a conference. The purpose of this action will be to disseminate, debate and take feedback on the forays made on the topic within the scientific and academic community specialized in the subject.

- The publication of a book to support activities mainly aimed at children of basic and pre-school education.

In summary, all the activity outlined will be guided by awareness of the state of the art and the references pointed out in the two major groups of the bibliography referenced both on education with architecture for children and young people and on pedagogies and teaching. In this sense, these references will guide the methodological tasks of the different stages of the project, which in the design of contexts and methodologies for analysis (phase 1), application and monitoring of strategies (phase 2) as well as final systematization and operationalization of mechanisms (phase 3) will lead to educational strategies with architecture.

Actually, starting from the problematic about the awareness of the significance of the surrounding space and its quality apprehended by children and young people, an educational and training action is outlined, activating mechanisms of awareness, perception and criticism in this target audience (children and young people) and also operationalizes strategies in the field of action of the trainers (teachers and early childhood educators). In this way, education and training will be two key pieces of the methodology strategy, based upon the premise that more informed children or young person will be in the future more demanding adults and more concerned about the surrounding space and its particular quality.

In this sense, it will be through the diversity of the team members and their training competences that will guaranty the feasibility of these interdisciplinary methodology to launch Educational Strategies with Architecture.

EXPECTED SCIENTIFIC RESULTS

At the level of scientific results, this embryo project is expected to establish applicability criteria for the construction of an education methodology with architecture applied to the school context from pre-school to high school education levels. The main objective will be, with this first approach, to create the bases for a broader and future research that materializes into the realization (in a future project) of an Educational Reference for Space and Architecture to work in school environments, that reinforces the relationship with the school community and the awareness about the importance of the surrounding space.

In addition, will be considered as expected results the following dissemination actions:

At the level of didactic activities: conclusion and publication of a book for children about the urban space - ethics and citizenship;

At the level of dissemination and discussion of research: presentation of communication and publication of an article in an international conference / magazine.

BUDGET: € 7.500,00

The requested budget is intended to enable the various phases of the embryo project to be developed over 18 months and estimating a total value of 7500 €, which will be justified in the following items:

Human Resources - within the scope of the support provided by a fellow in the implementation of the activities listed in the first phase of the work and support for the publication of the book in progress. (1100 €)

Missions - within the scope of support for travel planned in the second phase with activities to be carried out in schools. (200 €)

Acquisition of other goods and services - to be incurred both in the acquisition of essential goods for carrying out the activities as well as in support of the planned publication. (4500 €)

Other current expenses - will be considered for the acquisition of general support material for the development of the project. (200 €)

Equipment - one laptop computer is intended to be used in the execution of the various phases of the project. (1500 €)