

Sustainable Project into Redesigning Atmospheres and Landscapes

Principal Investigator / PI
José Silveira Dias

Integrated Researchers of CIAUD
Rute Gomes
Marco Neves

Collaborating Researchers of CIAUD

External Researchers
Dulce Loução

Keywords

SUSTAINABLE METHODOLOGY
CRITICAL DESIGN EDUCATION
ENVIRONMENTAL DESIGN (atmospheres and

Partner Institutions

Expected Future Partner Institutions
CICS.NOVA - Interdisciplinary Centre of Social Sciences
CNECV - National Council of Ethics for the Life Sciences
CIIS - Interdisciplinary Health Research Center
INESC.ID - Institute of Systems and Computers Engineering

OBJECTIVES

The main goal of this research is to establish a sustainable active methodology in higher education, which can:

G1 - Develop a pedagogical methodology that enhances reflection and expansion of critical thinking and counteract the current temporal dispersion;

G2 - Encourage a shared responsibility among every stakeholder in the design process; developing critical thinking with ethical co-responsibility; establishing interdisciplinary and participatory knowledge through the application of a conceptual model in design process and, as a consequence, in design practice [3];

G3 - Promote the ephemeral nature of a design process as a way of expanding creativity based on sustainability principles;

The specific objectives are related to the tasks indicated in the work plan.

BIBLIOGRAPHIC REFERENCES

[1] Han, B. (2017). Psychopolitics: Neoliberalism and New Technologies of Power. London & New York: Verso Books.

[2] Silveira Dias, J. & Almendra, R. (2022), "Designing minds with designed emotions. Spiral thinking design" in Kong, M. & Monteiro, M. (Eds.), Creating through Mind and Emotions. CRC Press, Taylor & Francis Group, Boca Raton, United States.

[3] Love, T. (1998). Social, environmental and ethical factors in engineering design theory: a post-positivist approach. PhD Thesis. University of Western Australia: Department of Mechanical and Materials Engineering.

[4] Silveira Dias, J. (2019). POPPING UP. Desenhando um modelo conceptual para o Processo em Design ou A Efemeridade em busca do seu designio. PhD Thesis. Universidade de Lisboa: Faculdade de Arquitetura.

[5] Papanek, V. (1995). The Green Imperative – Ecology and Ethics in Design and Architecture. London: Thames & Hudson.

ABSTRACT + IMAGES

Currently, there is a crisis in the experience of interpersonal and interspatial relationships due to acceleration of accessible information and technology, in addition to simultaneity and globalization of events. An Experience of Place is replaced by the ease of digital simulation, which increases our current temporal dispersion [1]. We seek to find solutions that can promote greater perception, experimentation and criticism of Place in design education through a new design methodology.

This crisis of experience directly influences the autonomy of creativity.

Creativity can be continuously stimulated through life-long learning. When exploring active methodologies within teaching and learning processes, Design is an interdisciplinary subject aided by: (i) Artificial Intelligence in rethinking the positioning that humans conquered as conscious beings, but which underestimates nature and fails to recognize its dependency on other species; (ii) User-centered Psychotherapy and spatial interaction towards strategies for emotions and mind impulses which correspond to sustainable behaviors [2]; (iii) Landscapes and Territorial Dynamics in the context of glocalization and globalization; (iv) and in the research of cognitive system in the adequacy of physical and digital agents by Human Factors Engineering. These disciplinary domains are supported by collaboration of the research centers of the future partner institutions: CICS.NOVA, CNEV, CIIS and INESC.ID.

In this way, we aim to consolidate the design of a procedural spiral [4] in a methodological orientation in Environmental Design. This methodology intends to project the effect from the evocation of memory, leading to experimentation and responsible operationalization. Absence of the experience of the Place leads to the lack of responsibility of our actions towards the environment. This will guarantee a critical and expansive reflection of the processes whose fundamental action is to ethically preserve our Nature [3].

Intention to develop and validate this active sustainable methodology started from a 4Xself model (fig.1) validated in the context of the PI's PhD that, with the guidance of the respective Practical Assignments Guide [4], we now propose to study and implement a pedagogic Methodology for Design development. This is a proto methodology and is called SPIRAL (Sustainable Project into redesigning Atmospheres and Landscapes). The State of Art for this research project was carried out within the scope of the same PhD.

SPIRAL aligns with the 4th SDG (Sustainable Development Goal) on Education, specifically target goal 4.7, as we aim to contribute to the SDGs defined by the UN in a transversal way with the methodology. The State of Art [4] deals with the areas of study (fig.2) identified and integrates the underwriters and evidences considered relevant in acceptance of concepts and practices that integrate our research questions:

Q1 - How can SPIRAL, as a proto methodology, counter the temporal dispersion that affects critical and expansive reflection?

Q2 - How to create and implement this methodology that promotes interdisciplinary, sustainable and ethically committed design processes?

Q3 - How can this methodology consolidate its meaning as a catalyst and aggregator system for creative acting in the Design process?

Theorizing about Environments Design (atmospheres and landscapes) is organized according to the four quadrants of the 4Xself model (fig.1) that identifies four distinct and successive moments: (i) through forms and characteristics of the object of study, within the scope to EXPLORE; (ii) through emergence of the problem in urban territory and contemporary cultures, in the field to EXPERIMENT, promoting ACTION, completing cycles that develop from the cause, projecting the effect. In the continuation of this movement, which is intended to be incremental, (iii) it is also reflected on the modes of object manifestation to EXPOSE, and (iv) through forms of action and application of recognized systematization models, to EXPAND processes, promoting background, RETROACTION, then establishing a new ITERATIVE incremental cycle [4].

SPIRAL's team includes specialists whose expertise promote crossing of knowledge in the respective areas (fig.2) and interventionist practices in education, ensuring the following principles: (i) be transversal to the values and mission of SPIRAL methodology for a more qualitative strategy in design teaching; (ii) develop an operational sustainable methodology with and for society through Co-design and Participatory Design; (iii) be enrolled in the ECO triangulation in which Social, Economic and Ecological aspects are marked out between the poles Nature and Technology, Human and Artificial, Authenticity and Simulation [5].

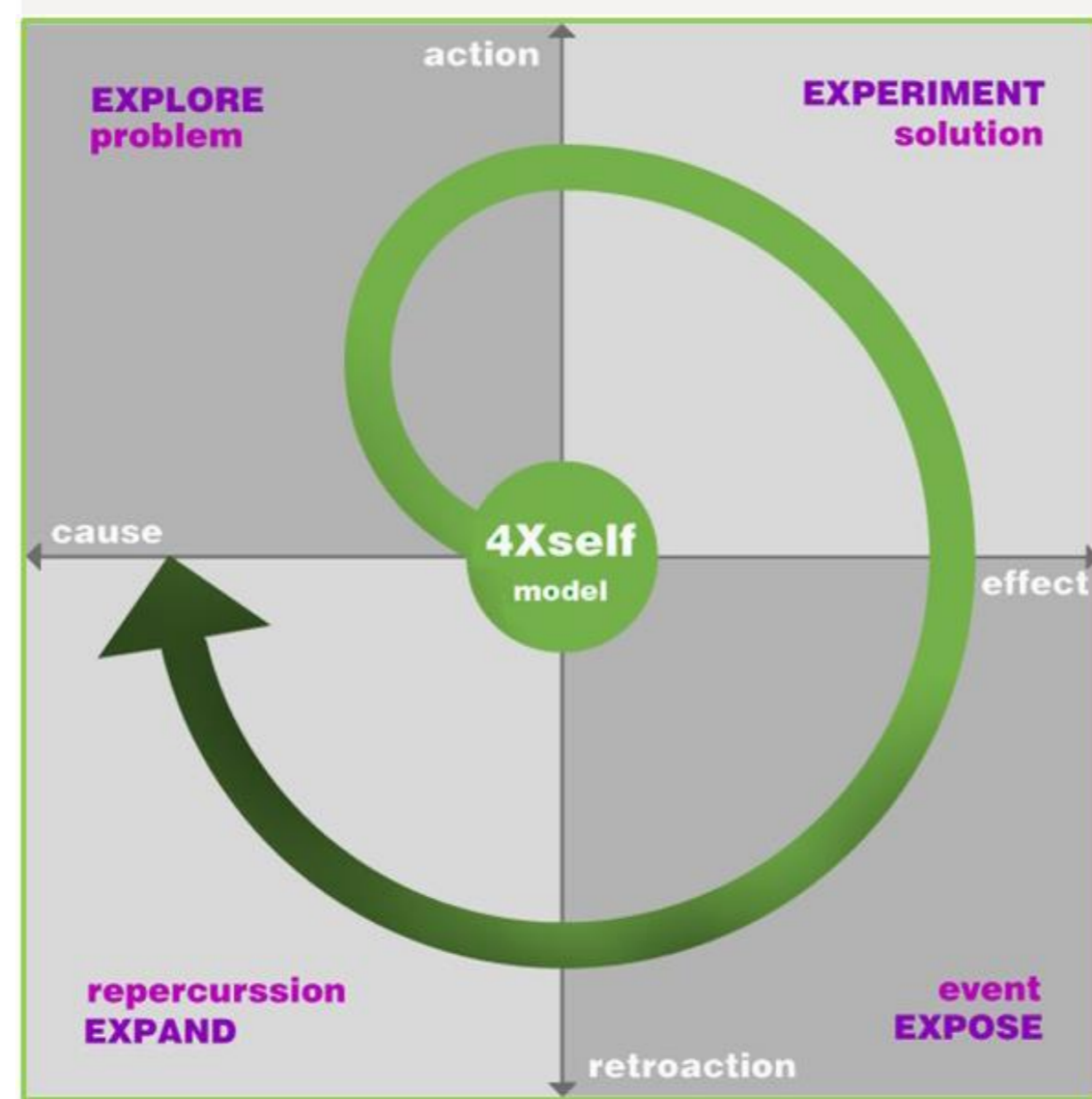


Fig.1 – 4EXself. Source: SPIRAL's authors

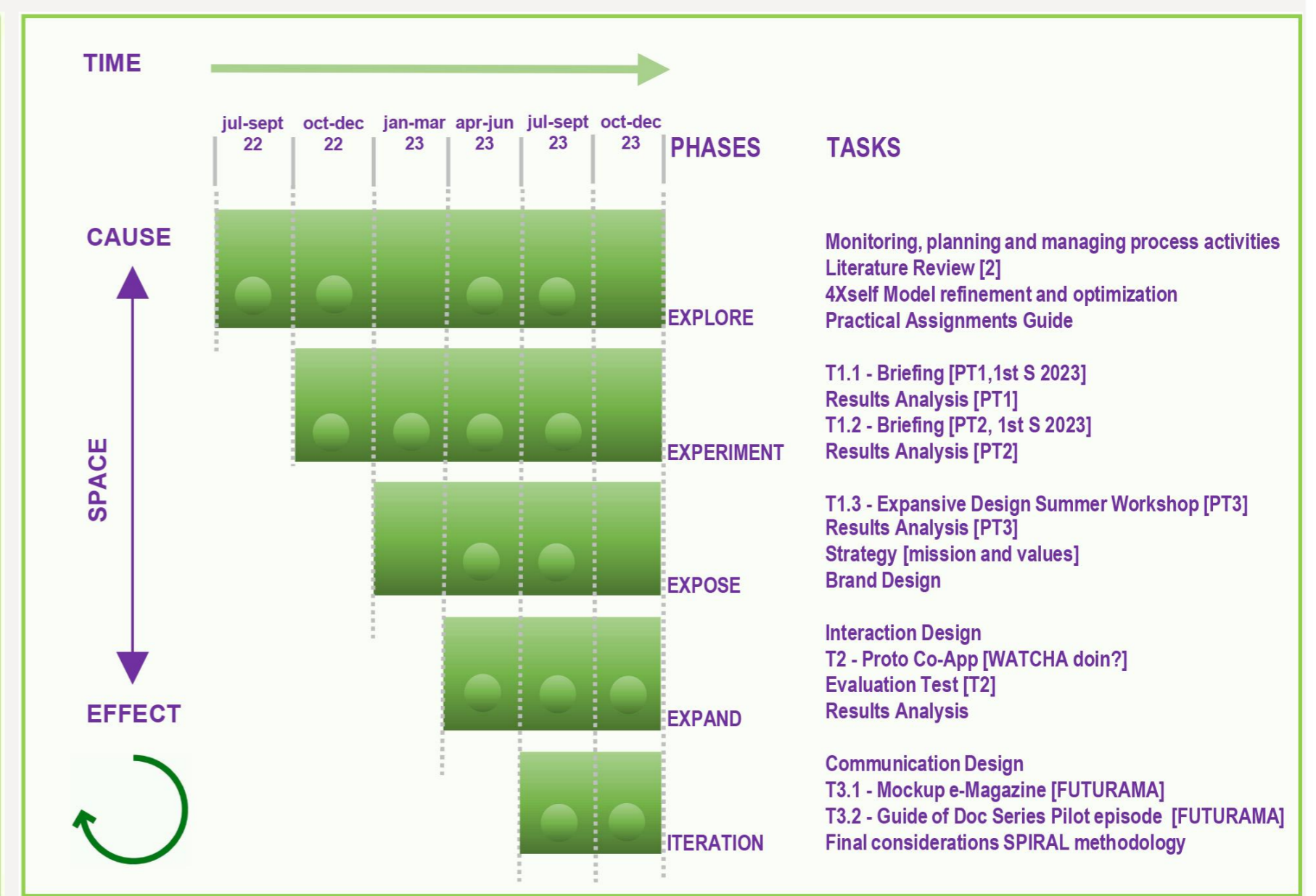


Fig.3 – SPIRAL's research plan timeline. Source: SPIRAL's authors

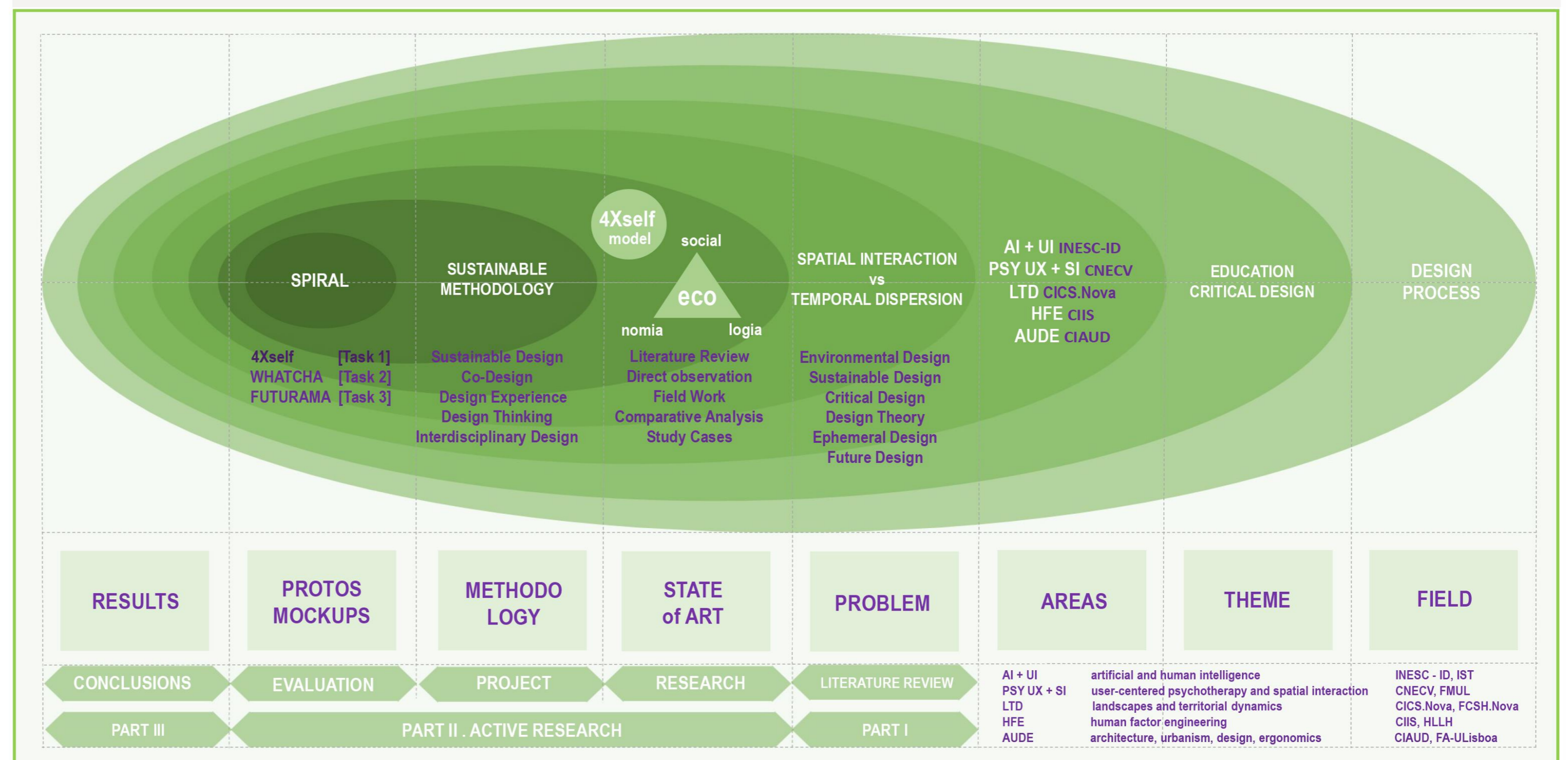


Fig.2 – SPIRAL's organogram. Source: SPIRAL's authors

SCIENTIFIC RELEVANCE FOR THE DISCIPLINE

The scientific relevance has to do with:

- (i) Design as a process to embrace all spheres that guide society through the creation of a Pedagogic Sustainable Methodology;
- (ii) the nature of the proposed methodology exposes Design as an advisor of other areas, aiming to find a common language that is made possible by it;
- (iii) the assumption that Design, as an interdisciplinary based-procedure is present in all areas of knowledge discipline;
- (iv) the need to constitute a more robust doctrine in Critical Design;
- (v) confirming Design as a process in guaranteeing identity, human nature and ethical values, as essential qualities in the creative process based on critical thinking for clarification of the role of disciplinary structure in the development of coherent design theories [3];
- (vi) redirecting humanist thinking, emphasizing the potential and entrepreneurship of human beings, individually and collectively;
- (vii) methodologically applying Hegel's casuistic and universalist dialectic, which argues that an idea comes out of itself (thesis); to be something else (antithesis); then it returns to its identity, becoming more concrete (synthesis), drawing a helical thought [4].

EXPECTED ECONOMIC AND SOCIAL IMPACT

SPIRAL's expected economic and social impact resides in two main areas: (i) directly in Design education by applying SPIRAL's methodology in the creative process and in the training of responsible professionals; (ii) which, in turn, will integrate the labor market with skills focused on sustainability principles, contributing to a more equitable economy.

This way, the impacts will be related to the change of mindset in which time regains its value. In the medium and long term, it could constitute a management and strategy tool that, when applied, economically optimizes the design and production processes in a more sustainable and responsible critical manner [5].

It is expected to impact society, as it aims to support strategies to slow down our current pace and value the time to reflect on our actions/processes. SPIRAL will encourage the repositioning of human beings as part of Nature, respecting the rhythm of natural regeneration cycles, defending nature as a model for analyzing and learning.

RESEARCH PLAN AND TASKS

SPIRAL proto methodology for Design education is based on the model developed by the PI at the doctoral level, whose methodology is being developed within the PI's post-doctoral project (due in September 2023). This proto methodology will guide the process dynamics, in a spiral growing manner.

Three main tasks will be carried out to test different supports to optimize and disseminate the methodology to be developed (fig.3):

Task 1

4Xself (application of the methodological model)

This task is centered in the application of 4Xself in the methodological process. One will provide students a design brief, Practical Assignments Guide (PAG), whereas there will be requested to:

- i) to develop new sustainable dynamics through participatory and collaborative practices, to awaken a sense of community and encourage critical and expansive reflection;
- (ii) to design efficient visual information about the process among the stakeholders, in order to become a collaboration tool;
- (iii) to become referential and inspirational for the process and as a way of documenting for future reference.

These tests (Proto tests) will take place in three moments. The two first in Project Briefs, delivered to master students on subject classes of Interior and Equipment Design, Product Design, Ephemeral Architectures and Design V at FA-ULisboa.

The third test - EXD (Expansive Design Summer Workshop) and TED talks on Future Design under the subject: the Methodology application; collaboration (on problem solving) and participatory sessions with users; Critical Design Education, Environments Design (atmospheres and landscapes), Critical Design and Design Theory.

These three Proto Tests will allow us to assess and optimize the Methodology in order to apply it.

Demonstration through the practice of a model can, on the one hand, illustrate its use and, on the other hand, evaluate its methodological suitability as a pedagogical tool, the fundamental issue being the practice of participatory collaboration of those involved in the process and the development of critical and expansive thinking.

Methodological tests must have tools to support dissemination. At this stage, we will work in higher education contexts using it as a laboratory to test and optimize so that replication can be done through an expansion to other levels of education.

Active Members Involved: JSD; RG; MN; DL | Dissemination outcome.

Task 2

WHATCHA doin'? - What are you doing for Earth? (pilot app)

WHATCHA is a collaborative mobile APP (application), that will comprehend a community of users concerned with Earths' sustainability, and will support SPIRAL by the following:

- (i) inquiring and registering of individual and group contributions towards an improved future LIFE on Earth, identifying human, material and immaterial resources;
- (ii) crossing and sharing experiences, models, case-studies in a scientific research context;
- (iii) giving global visibility to projects (critical reflection and/or experimental practice);

(iv) optimizing the platform as a search engine and one that activates hyperlinks among and with projects, communities; research and researchers;

(v) hosting an experience and experimentation e-library and an archive of creative estate.

At this phase, this app will be developed on a pilot stage. We expect that this will be a provider of future data for ongoing research on this subject.

Active members involved: JSD; MN; BI (one master student grant in Interaction Design) | Dissemination outcome

Task 3

FUTURAMA – e-magazine and documentary series (mockup and script of pilot episode).

The third task is focused on developing two dissemination channels, an e-magazine and a documentary series, that will ensure a more transversal impact and we have the possibility of reaching a more accurate focus group and participating in it. Thus, it will be possible to develop an intelligible and common language among the audience.

It is important to situate the concepts behind these two dissemination channels:

In 1939, The New York World Fair had a main purpose to show the world its vision of the future. With the claim "The dawn of a new day", the event promised to show "Tomorrow's World". Visitors that had experienced the future received as a souvenir a button with a printed phrase "I saw the Future".

The opening of the Fair was highly successful due to the first TV USA transmission. Around 1000 spectators saw it on 200 TV spread along NY. Besides the images of the event the broadcast presented the president Roosevelt speech that declared the Fair to be OPEN FOR ALL HUMANITY [4].

Futurama (magazine and documentary series) is inspired in this humanitarian ideology that aims to ally technology with their own principles; Both proposals will establish the interface with other knowledge areas so we can confirm the application of the design process since design is an interdisciplinary discipline.

The two dissemination formats target distinct groups (from analogic to digital generations) that together form the entertainment Era, the Era of emotional consumerism. For this, the following materials/tasks will be developed:

T3.1- biannual e-magazine > pilot version

A template and branding for the e-magazine will be developed and tested.

Active members involved: JSD; MN; BI

T3.2- documentary series (8 chapters of 30') > Pilot script and definition of the contents of the eight episodes

To study and develop the structure, graphic image and branding of the series.

The episodes of the documentary will explore the following themes:

- (i) Ensure access to inclusive, quality and equitable education and promote lifelong learning opportunities for all [SDG 4]
- (ii) Nature as a model and center of Humanity;
- (iii) Human Intelligence vs Artificial Intelligence;

EXPECTED SCIENTIFIC RESULTS

SPIRAL's expected economic and social impact resides in two main areas: (i) directly in Design education by applying SPIRAL's methodology in the creative process and in the training of responsible professionals; (ii) which, in turn, will integrate the labor market with skills focused on sustainability principles, contributing to a more equitable economy.

This way, the impacts will be related to the change of mindset in which time regains its value. In the medium and long term, it could constitute a management and strategy tool that, when applied, economically optimizes the design and production processes in a more sustainable and responsible critical manner [5].

It is expected to impact society, as it aims to support strategies to slow down our current pace and value the time to reflect on our actions/processes. SPIRAL will encourage the repositioning of human beings as part of Nature, respecting the rhythm of natural regeneration cycles, defending nature as a model for analyzing and learning.

BUDGET: € 7.500,00

Materials for workshops - 1 100,98 €

Consult screenwriter (SW) - 290,00 €

Grant for master student in Interaction Design for 6 months (BI) - 6 109,02 €

Total amount - 7500€