

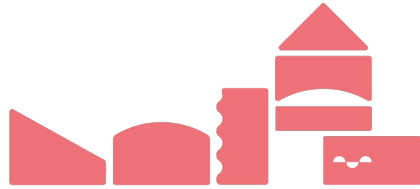
Designing flexible learning spaces for a positive impact: the cork castles system

Final Work of Master

MBDesign: Master's Degree in Advanced Studies in Design: Contemporary Design
Universitat Politècnica de Catalunya and Universitat de Barcelona
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Author: VEGA FERNÁNDEZ, Elena

Director: FORT MIR, Josep Maria



Designing flexible learning
spaces for a positive impact:
the cork castles system

WHY?

Methodology

Exploratory Research:

Primary + secondary research

- Context
- Designing positive impact
- Learning spaces
- Fun & play
- Interview: Educational expert

Design: Castelletts de Suro

Based on the research findings

- Concept
- Prototyping
- Testing
- Viability



Context

Education Today

Positive impact

Design's role

Instrument for social change

"Giver of well-being" (Fuad-Luke, 2007)

Affecting economic, political, social and cultural spheres

Designing positive impact is connected with designers' creative responsibility



Figure: Poster of the What Design Can Do conference (2017)

Source: What Design Can Do

Learning Spaces

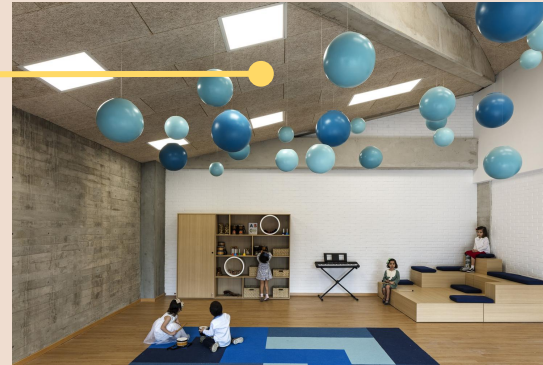
Where do they start and end?

From *teaching* to *learning*

The school building: the third teacher

Durable, cleanable, safe, imaginative,
open-ended, flexible, inclusive, contingent
spaces

Spatial stimulation triggers mental
stimulation



Figures 1 and 2: Sant Elia Nursery School, Giuseppe Terragni (1937). Source: Ellen Harris & Platform Blog

Figure 3: Montessori pedagogy - Prescolar Believe, 3Arquitectura. Source: ArchDaily

Figure 4: Liceo Europa, Rosan Bosch (2016). Source: Rosan Bosch Studio

Interview

Pilar Ugidos

Main ideas extracted from the interview:

Learning spaces are physical and psychological

Spaces and their beauty define our minds

Children need physical emptiness to be able to fill it with their own learnings and experiences

Teacher and former director of Escola Miquel Bleach.

Co-author of the book *Diversitat cultural i exclusió escolar*.

Started at the school the Tandem project with the Catalunya La Pedrera Foundation, partnering with MNAC.

Won the award "Ciutat de Barcelona" in the Education category.



Figure left: Pilar Ugidos, by Gemma Ventura (2016) Source: Catorze



Figure right: "Tandem Schools" activity at the MNAC museum (2016). Source: Blog MNAC



Figure: Chica chair, De Pas, D'Urbino, Lomazzi and DeCurso (1972). Source: MoMA

Contestatory objects
Flexibility through design

Figure: The Toy, Eames (1951) Source: The Culture Trip

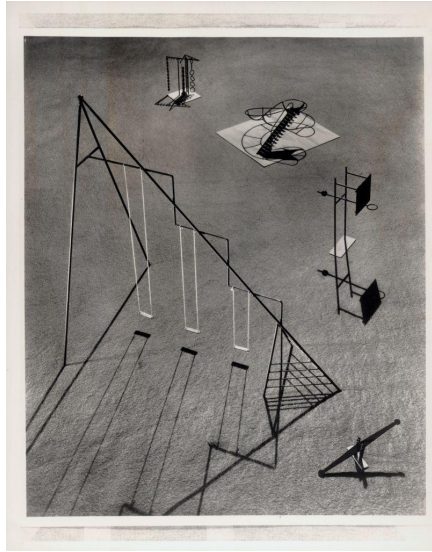


Figure: Playground, Noguchi (1951) Source: Artishock

Fun & Play
Triggers imagination

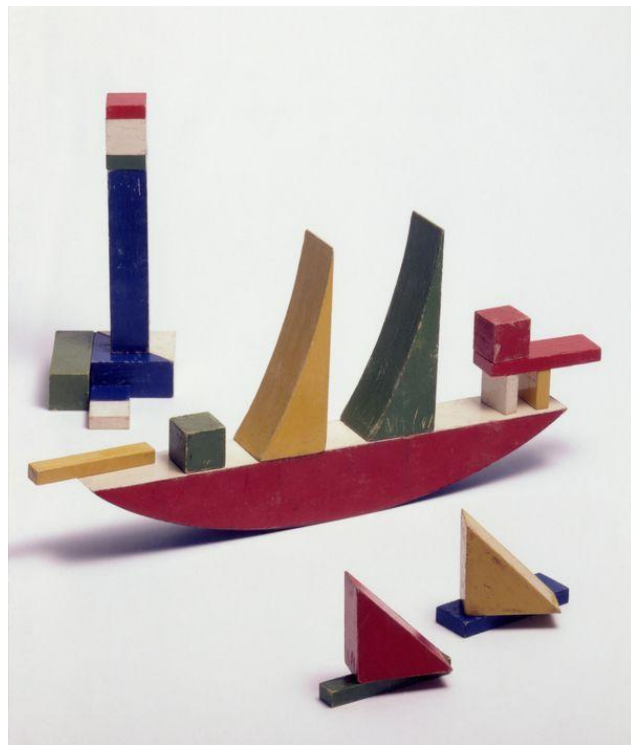
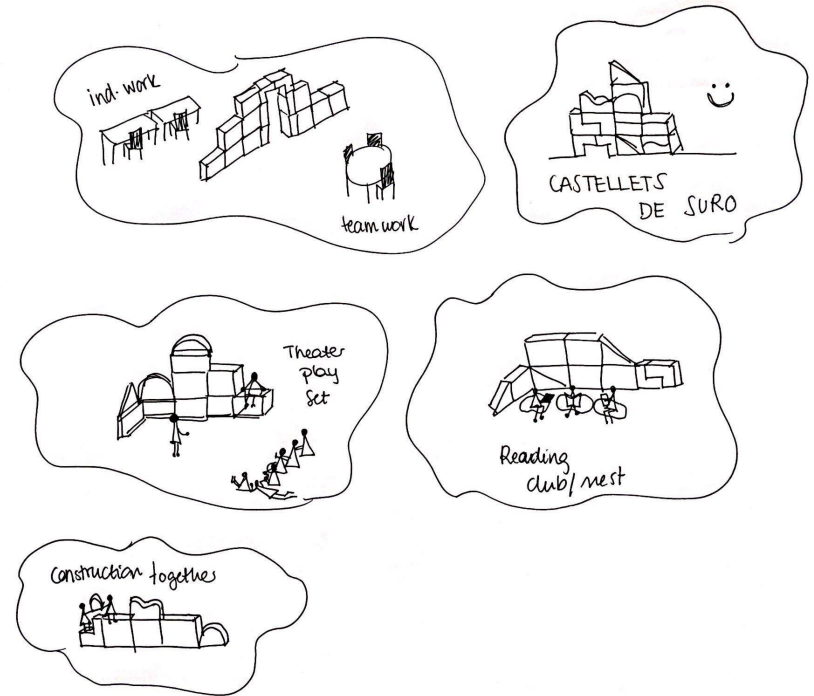


Figure: Toys, Alma Siedhoff-Buscher (1923). Source: El Periódico

Blocks
Educational play

Design opportunity

A flexible product that ensures contingency and flexibility so existing learning spaces can easily be adapted to different ways of teaching and that can contribute to creating a positive impact in schools, by promoting creativity and collaboration.



Castellets de Suro

Open-ended modular system of cork blocks that invites children and teachers to create their own learning spaces.

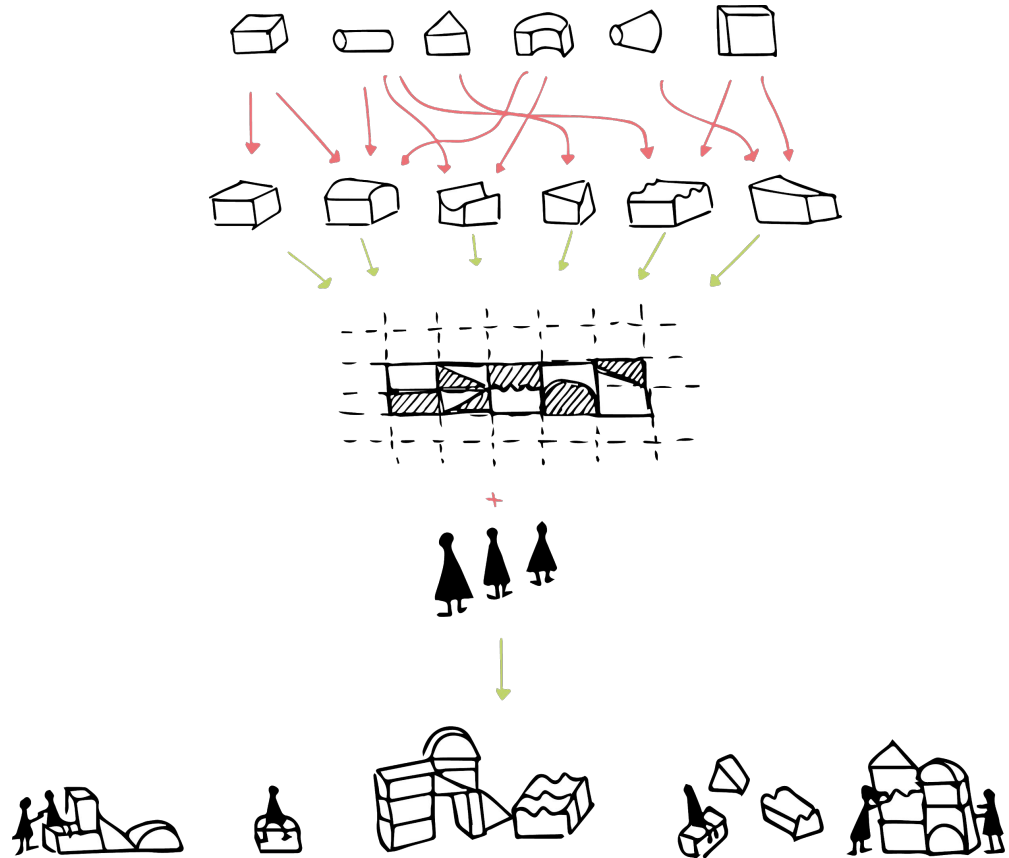


CastelletsdeSuro

Geons

Abstract geometric primitives
Our minds recognise objects by
dividing them into geons: blocks,
cylinders, wedges and cones
(Biederman, 1987)

As users we can assign functional
meaning to these shapes and build
our own forms, objects, scenarios,
uses with our own experiences.



Design

Ugidos answers stated that:

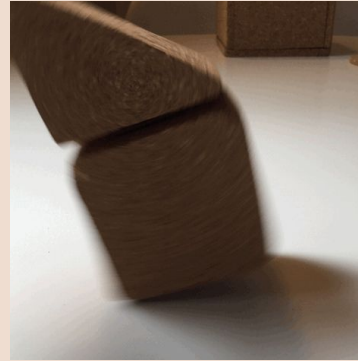
Both primary and kindergarten teachers would be interested in the proposal

Age of the target group: 3-11

Social collaborative potential

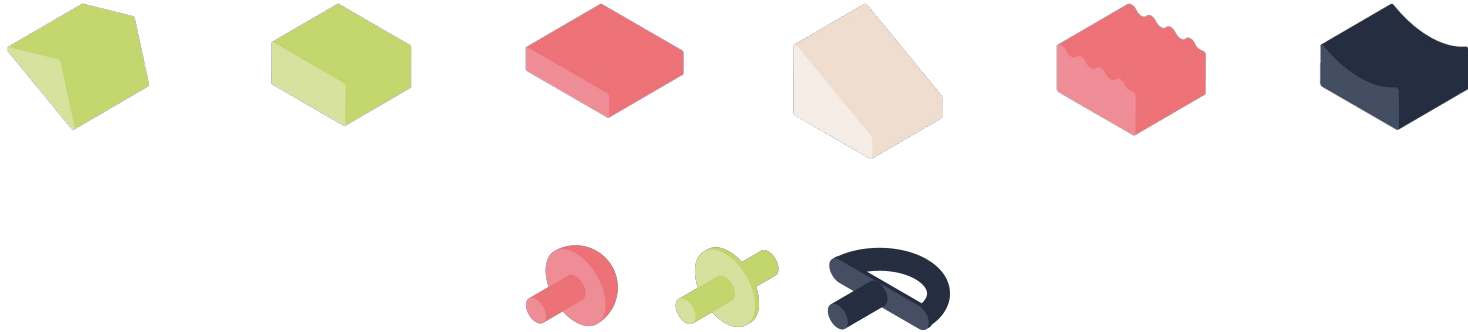
Individual use of blocks as dynamic seating solutions

Quickly capable of picturing other uses - validating the open-ended purpose of the system



Prototyping and Testing

Design



Technical details:

Materials: Cork and bio-elastomer

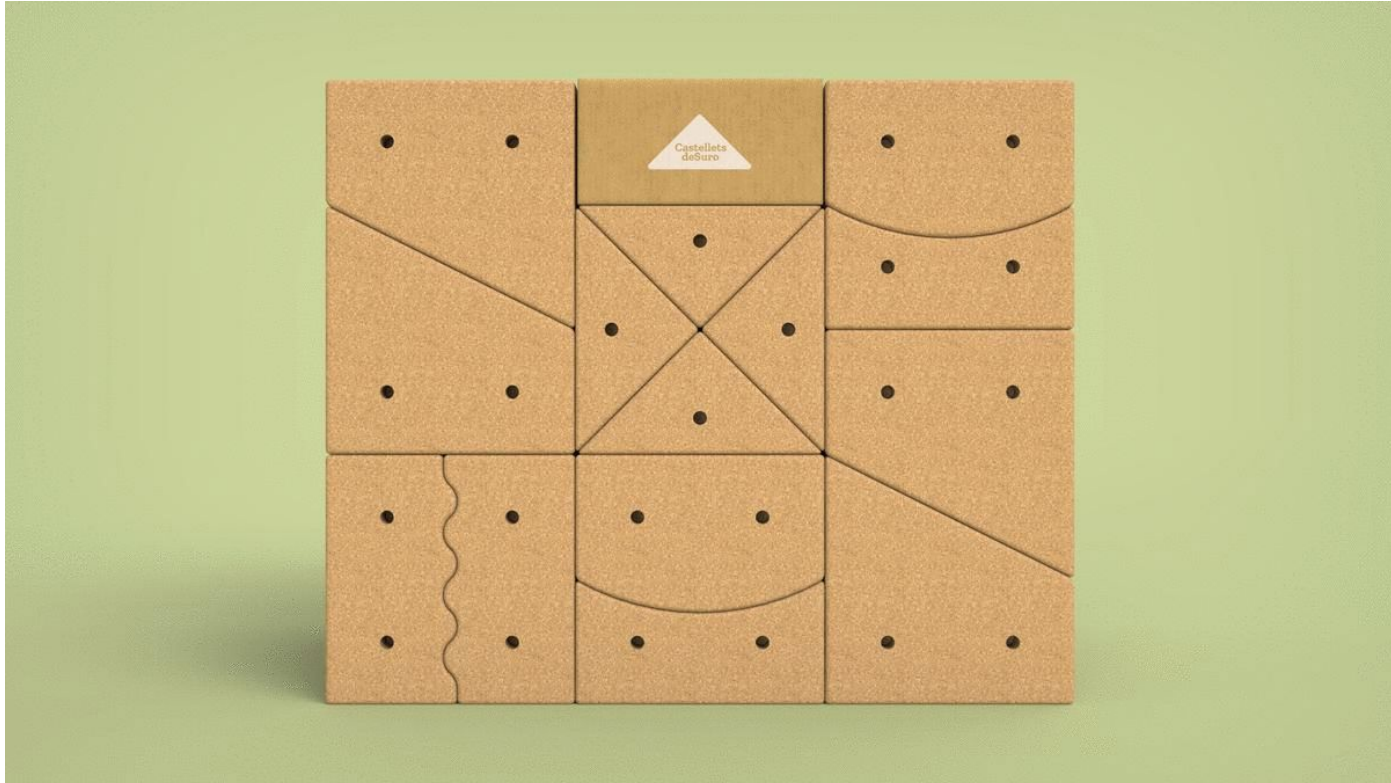
Unions: Plugs

Ergonomy: Lightweight and height adapted to different ages

Production: CNC and injection moulding

Plans

Design



Uses

Design

The users (children and teachers)
are the authors of the possibilities
that can arise.



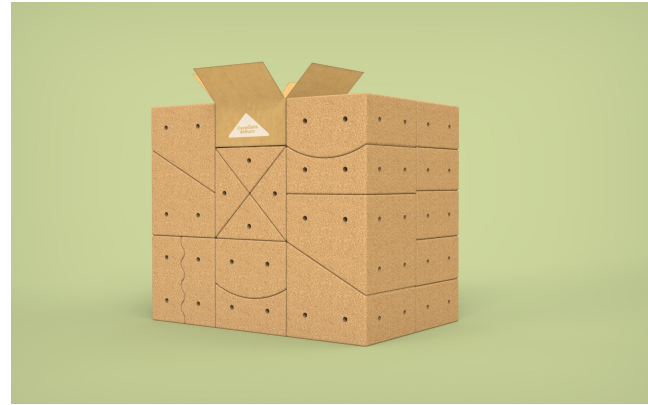
Uses





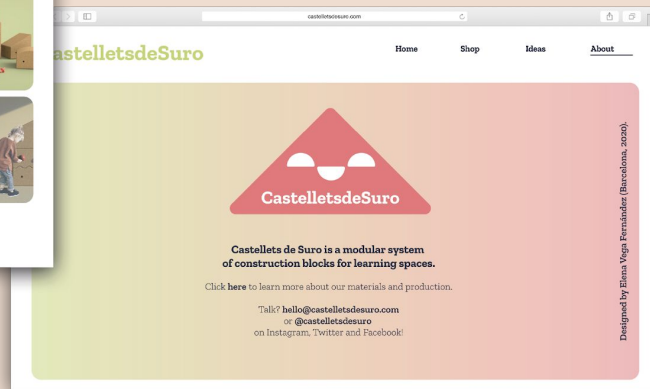
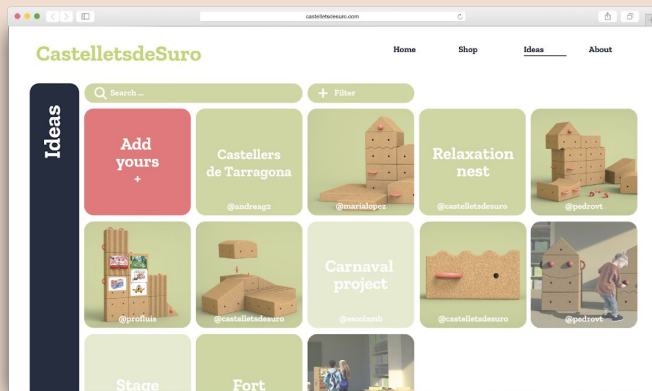
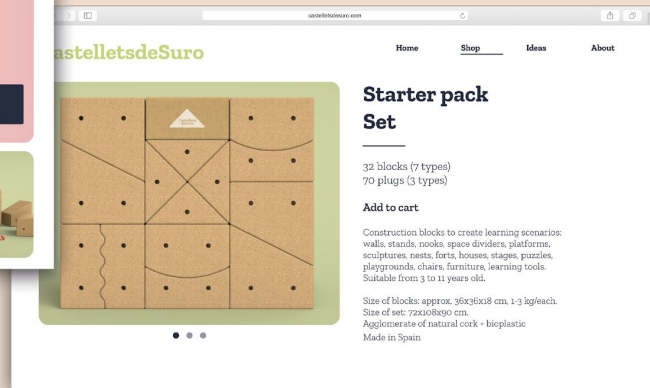
Local identity and material:
Castellets
Agglomerate of natural Cork





Starter set: 32 blocks + 70 plugs + poster + website

Design



Community

Viability & expansion

CASTELLETS DE SURO

Pilot project

Product design
Further research on
materials, blocks ideas and
unions
Packaging
Creation of online
community

CORK PARTNERS

ICS

AECORK

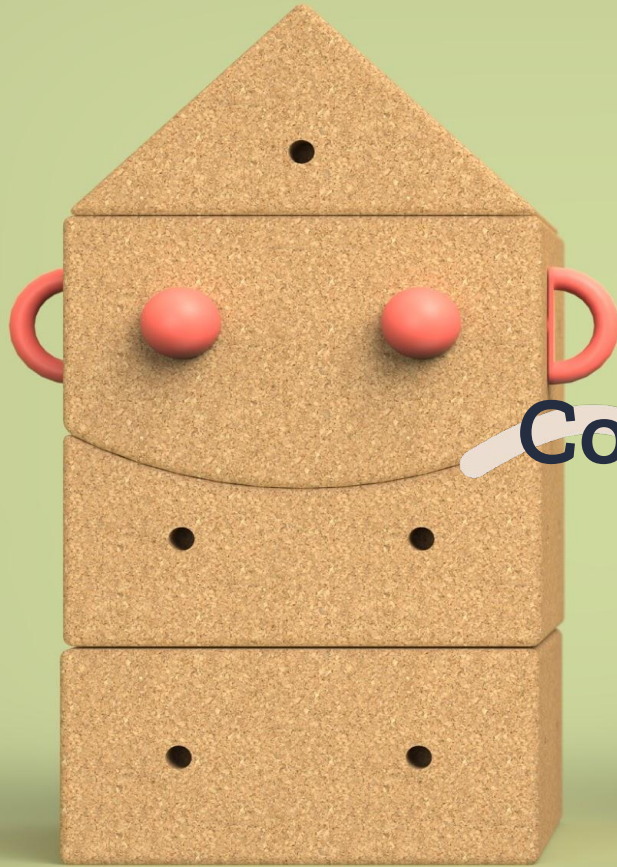
**Barnacork or other cork
manufacturing companies**

Prototypes
Manufacturing agreements
Budget
Join bigger research projects
Financing

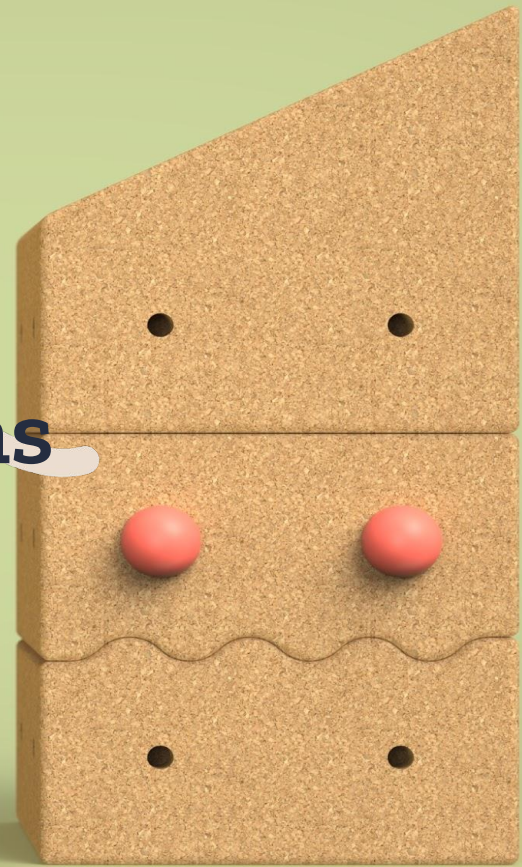
EDUCATIONAL PARTNERS

**Department of Education of
the Generalitat de Catalunya
or Foundations**

Connecting with schools
Project implementation
Test the system
Feedback from educators
Financing
Distribution
Establishment of network
using existing channels



Conclusions





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Thank you!