

# **CHALLENGE- BASED LEARNING**

**1.0. Introduction to Challenge-Based Learning (CBL)**

**1.1. Identifying the Initial Problem**

**1.2. Building the Challenge**

**2. Context**

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## 1.0. Information about Challenge-Based Learning

Challenge-Based Learning (CBL) is a learning methodology based on a real-world experience: participants face a specific problem in their territory and explore possible improvement options, eventually formulating a proposed solution that is ideally implemented and evaluated. CBL is oriented towards achieving social impact, understood as real improvements resulting from the use of the knowledge generated through the activity and aligned with societal goals such as the United Nations Sustainable Development Goals (SDGs).

The person responsible for coordinating a challenge-based educational experience is a Research and Teaching Staff (PDI) member: an expert in the subject matter who coordinates and facilitates the group and acts as a bridge between the participants and the territory-based stakeholder providing the challenge.

Work groups are multidisciplinary, with each member contributing their knowledge and experience in analyzing the challenge and formulating the final proposal. Therefore, it's important to form teams with students from various university degrees.

The institution providing the challenge may be a private company, a public institution, an NGO—essentially any entity with a strong connection to the local area.

The UAB (Universitat Autònoma de Barcelona) approach to CBL follows a specific structure with four main steps: engage, investigate, act, and evaluate.

- **Engage**

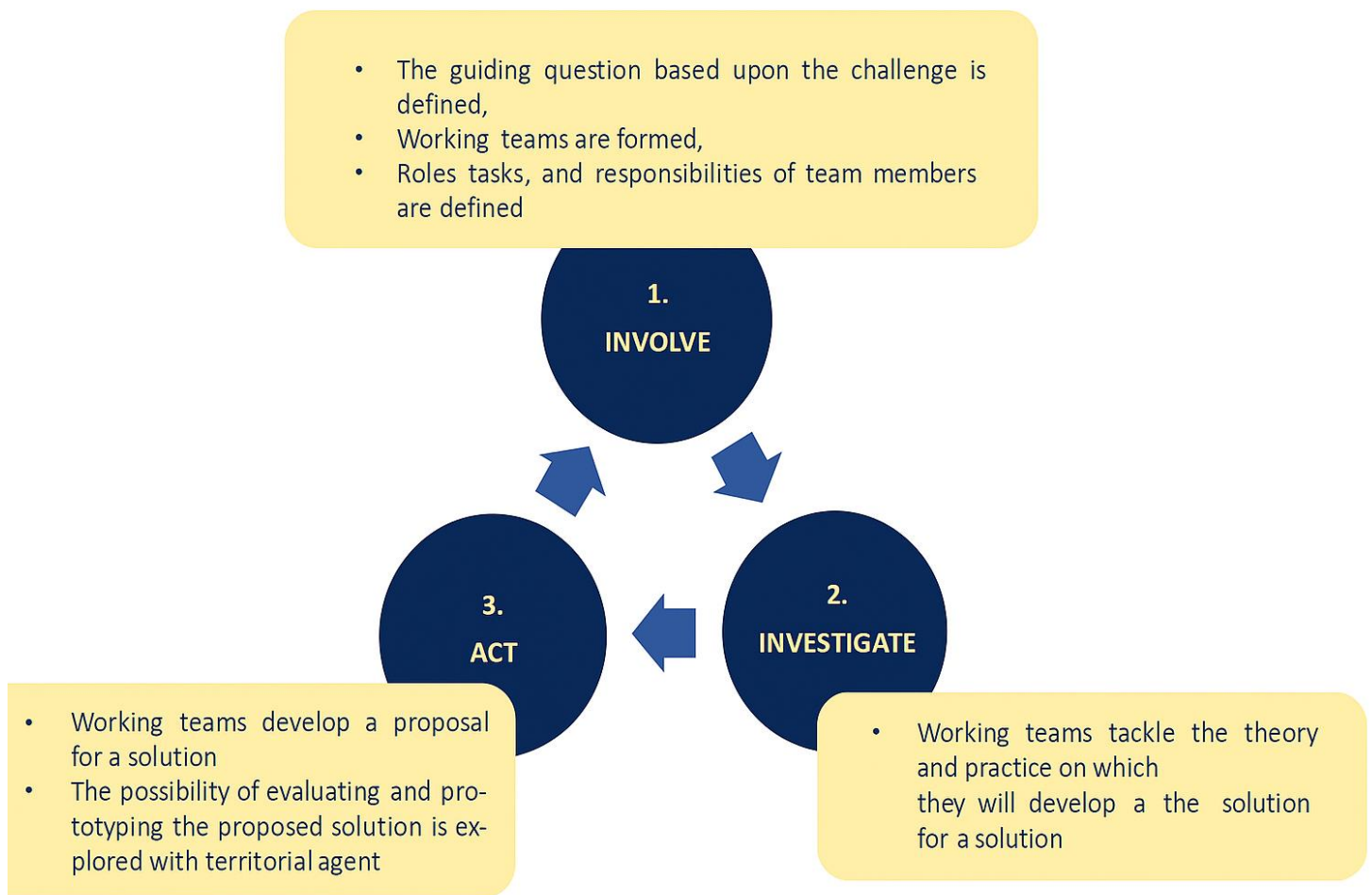
The foundation of motivation is to work on a “big idea,” which can be any issue in a social, economic, or environmental field, such as health or public transport. All participants—teachers, students, and external partners—must agree on the final challenge and define initial indicators to assess the eventual impact.

- **Investigate**

The team ensures that all members understand the challenge and can contribute with their knowledge and skills. Teams may use micro-modules to fill knowledge gaps or acquire new skills useful for solving the challenge.

- **Prototyping**

Stakeholders use shared knowledge to design, assess, and prototype new solutions. Teams can propose services, products, research questions, startups, or spin-offs as possible solutions.



At UAB, student teams coordinated by faculty members have been working on real local challenges.

One highlighted experience took place in **Covadonga, Sabadell**:  
[Urban laboratory to be launched in Sabadell - Universitat Autònoma de Barcelona - UAB Barcelona.](#)

Another example involved ABD (Association for Welfare and Development) and El Prat de Llobregat City Council, transforming the local food security system:

[The ECIU University presents food safety challenge results in El Prat de Llobregat - ECIU University - UAB Barcelona.](#)

# 1.1. Identifying the Initial Problem

The first phase involves identifying a real and relevant issue in the local context and examining it in depth.

PROBLEMA
<p><b>Initial Problem Statement</b></p> <p>What issue do we aim to address? Which SDG(s) are relevant to this challenge?</p>
<p><b>Starting Point</b></p> <p>Quantitative or qualitative indicators that define the current state of the problem. These indicators should also allow for measuring impact over the short, medium, and long term.</p>
<p><b>Context</b></p> <p>Description of the current situation. Contributing factors and distinguishing characteristics.</p>
<p><b>Affected Stakeholders</b></p> <p>Individuals, groups, or organizations directly or indirectly impacted by the problem.</p>

## Obstacles

Why has this problem not been successfully addressed until now?

Based on the initial analysis, define the future scenario you aim to achieve.

## Expected Social Impact

What changes, aligned with the SDGs, do we want to provoke in the medium to long term? Write key ideas to visualize the future scenario and main transformations expected.

What is the objective in transforming the initial situation (referring to indicators and target SDGs)?

**SDG**

Which SDG(s) are we contributing to? In what way?

## 1.2. Building the Challenge

Transform the identified issue into a well-defined challenge—a concrete opportunity for action that moves us toward the desired future vision.

INITIAL CHALLENGE			
Based on the analysis, rephrase the issue as a challenge:			
<b>How could we</b> _____ (verb: improve, reduce, promote...)			
_____ (what; target of the intervention)			
_____ (for whom; affected stakeholders)			
<b>in order to</b> _____ (why; long-term goal)			
<b>Title</b>	A concise name for the challenge.	<b>Subtitle</b>	A descriptive phrase that expands on the title.

Initial Sub-Challenges	Future vision	Scale
List specific sub-challenges or areas of action derived from the main challenge. They can be expressed in more concrete phrases.	What change would we like to bring about regarding this sub-challenge?	What is the geographical scale at which we'll work?

<b>Challenge</b>	
<b>Challenge Promoter (Local agent and faculty team)</b>	
<b>Topic</b>	
<b>Faculty</b>	
<b>Bachelor's/Master's Program</b>	
<b>Course</b>	
<b>Credits</b>	
<b>Number of students</b>	
<b>Study period</b>	
<b>Core team</b>	



## 2. Context

EXPANSION OF CHALLENGE DEFINITION	
<p><b>Relation to Relevant SDG</b></p>	
<p><b>Causes</b> What are the direct and indirect causes of the problem?</p>	
<p><b>Consequences</b> What are the direct and indirect effects of the issue?</p>	
<p><b>Other Key Stakeholders</b> Can we identify new stakeholders affected by or influencing the challenge?</p>	
<p><b>Current Trends and Strategies</b> What are the main current trends related to the challenge? Are there strategies (local, national, etc.) being implemented to address it?</p>	
<p><b>Obstacles and Opportunities</b> In our context, what obstacles are hindering progress? What opportunities (policy, social, technological, etc.) could help us move forward?</p>	
Relevant Documents	Link relevant documents or information.
Conclusions	Summarize key conclusions. Use the new information to refine the initial challenge or future vision.

### 3. Impact

Predefined Indicators	Results of Key Indicators	Evaluation	Improvement Strategy
Indicators established at the beginning of the process to track progress and evaluate outcomes.	For each defined indicator, what result did we obtain?	Can we answer the evaluation questions based on the results? What conclusions can we draw from the data?	Based on the results and conclusions, what changes or improvements should be made to further advance the desired impact?
Final conclusions	What overall conclusion can we draw from the evaluation?		