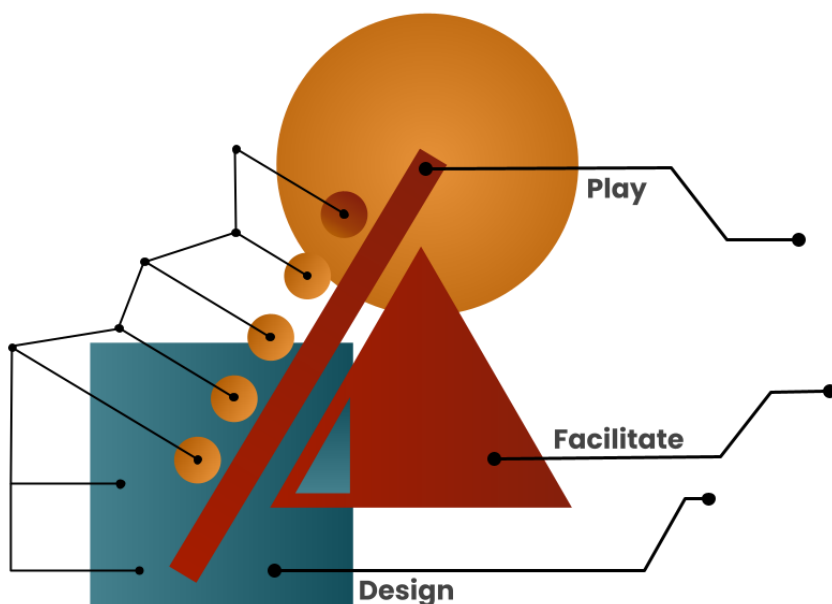




# How to Take Advantage of **Gamification** in Teaching and **Learning** Activities

Design of Gamified  
Learning Experiences



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# Prologue

Hello,

Welcome to the guide "How to take advantage of gamification in teaching and learning activities". This document aims to be an introduction to the key aspects involved in the design of a gamified learning experience. It also wants to help you learn about and reflect on gamification from the different points of view involved in designing activities based on active methodologies, of which gamification is a part.

In this guide we are propounding spaces to participate and enrich this shared conversation we will have with you. These spaces should help you to personalize this text with your own contributions, which will finally be shaped by you. At the heart of the design of active learning experiences is the idea of User-Centered Design, which seeks to offer useful and tailor-made solutions for people, for this reason this guide is intended to open spaces for personalization. In this document we cannot offer you universal solutions and you will not find them either, in return you will find reference frames and design guidelines that will serve you as a starting point you will need to finish exploring, contextualizing and adapting to your own reality.

The fact that our work takes place in different realities and with the conscious desire to create empowering personalized and equitable learning proposals to the people involved makes ours a complicated job, but at the same time exciting, challenging and captivating.

We hope you find this guide useful and it allows you, in one way or another, to help improve learning you advocate every day and the environment in which it takes place, helping you and yours to be happy enjoying a healthy ecosystem. physically, emotionally and pedagogically speaking.

Shall we start to play? Shall we continue learning?



## Intellectual Output 1

### **How to Take Advantage of Gamification in Teaching and Learning Activities** • Design of Gamified Learning Experiences

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*Tom said to himself that it was not such a hollow world, after all. He had discovered a great law of human action, without knowing it—namely, that in order to make a man or a boy covet a thing, it is only necessary to make the thing difficult to attain. If he had been a great and wise philosopher, like the writer of this book, he would now have comprehended that Work consists of whatever a body is obliged to do, and that Play consists of whatever a body is not obliged to do. And this would help him to understand why constructing artificial flowers or performing on a tread-mill is work, while rolling ten-pins or climbing Mont Blanc is only amusement.*

The Adventures of Tom Sawyer - Mark Twain



# Roles in a Gamification

The Player · The Facilitator · The Designer



## What will we do?

Know the different roles involved in the process of creating and/or executing the gamified learning experience.

## What will we learn?

The different responsibilities the roles involved in a gamified learning experience need to take.

## Why are there different roles?

In order to be able to assume the different goals to be achieved and take responsibility for the tasks that need to be carried out throughout gamification. Will it be up to you to enjoy the game while you learn? Or maybe you need to accompany and guide the players? Or are you the one who designs and creates the gamified learning experience?

## Play:<sup>1</sup>

verb 2 do (something) playing / fig. Doing it effortlessly, easily, as for fun.

## Learn:<sup>2</sup>

1a (1): to gain knowledge or understanding of or skill in by study, instruction, or experience.

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<sup>1</sup> Definition translated from the original in Catalan in [www.dictionaris.cat](http://www.dictionaris.cat)

<sup>2</sup> <https://www.merriam-webster.com/dictionary/learn>

# Who do You Want to be?

## A Role, some Goals, some Responsibilities

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Before solving aspects such as what gamification is and what it is for or how to do or participate in it, it is necessary to take into account that there are different roles involved in its life cycle. From the moment the need to design the gamification experience arises until it is executed, the intervention of roles is necessary, assumed by people or teams, with different but linked goals and responsibilities and which are reciprocally needed.



Sometimes we can choose which of these roles we will take on, other times circumstances may determine the role we play. In this guide, we present the characteristics that define the minimum roles required to be able to design and implement a gamified learning experience.

It is interesting to know the diversity of these roles, the motivations that lead them to participate in the gamification, the main goals they seek and the responsibilities they have to assume faced with the learning experience.

If you're wondering what roles are involved in gamification, the quick and short answer is:

- **Player:**  
Enjoys gamification while learning.
- **Facilitator:**  
Accompanies the player watching over their learning.
- **Designer:**  
Makes a gamification proposal with the aim of provoking learning.

These roles can be personified individually or in a team that will be responsible for pursuing the goals and responding to the responsibilities of each role. It is also possible for the same person or team to play more than one role, but no matter what role you play, the words *play* and *learn* will be part of your goals and responsibilities.

## ● The Player

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*Work consists of whatever a body is obliged to do, [...] Play consists of whatever a body is not obliged to do.*

*The Adventures of Tom Sawyer – Mark Twain*

If we look up the definition of *player* in [www.merriam-webster.com](http://www.merriam-webster.com), we will find the following definition: "a person who plays a game". If we look up the definition of *game*, we can find "activity engaged in for diversion or amusement".

The player's obligation is to have fun while doing physical activity and, most importantly, mental activity. The feeling of fun goes hand in hand with the feeling of excitement to get things done and is contrary to fear. It is important to be aware of the great catalyst of fear that is the cognitive bias<sup>3</sup> of aversion to error, bearing in mind that fear, in the medium and long term, blocks and destroys the attitude of having an open mind, essential to activate intrinsic motivation, that which makes learning born of one's own will to learn.



When we do things in order to play we do them voluntarily and without any real fear of making mistakes, this is possible because all games anticipate, allow and even look for the mistake by planning how to recover from it. This is so from the very moment that at the end of a game we can start another with the score at zero and

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<sup>3</sup> Loss aversion is a cognitive bias that describes why, for individuals, the pain of losing is psychologically twice as powerful as the pleasure of gaining. [thedecisionlab.com/biases/loss-aversion/](http://thedecisionlab.com/biases/loss-aversion/)



with the chances of winning intact. This provides an environment where calculated risks can be taken safely, allowing us to explore our limits while making mistakes, becoming aware of the mistake, learning and recovering.

<b>THE PLAYER</b>	
	<p><b>KEYWORDS:</b></p> <ul style="list-style-type: none"> <li>• Play</li> <li>• Fun</li> <li>• Intrinsic learning</li> <li>• Voluntary</li> <li>• Excitement vs. fear</li> <li>• Error</li> <li>• Responsibilities</li> <li>• Goals</li> <li>• Open mind</li> </ul>
<b>Goals</b>	<b>Responsibilities</b>
<ul style="list-style-type: none"> <li>• Play</li> <li>• Have fun</li> <li>• Take risks</li> <li>• Make mistakes</li> <li>• Learn</li> </ul>	<ul style="list-style-type: none"> <li>• Follow the rules of gamification</li> <li>• Help their team</li> </ul>

## ▲ The Facilitator

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*“And this would help him to understand why constructing artificial flowers or performing on a tread-mill is work, while rolling ten-pins or climbing Mont Blanc is only amusement.”*

*The Adventures de Tom Sawyer - Mark Twain*

If we look for the etymology of the verb *to learn* in the Online Etymology Dictionary we can find: “Old English *leornian* “to get knowledge, be cultivated; study, read, think about,” from Proto-Germanic \**lisnojanan* (cognates: Old Frisian *lernia*, Middle Dutch *leeren*, Dutch *leren*, Old High German *lernen*, German *lernen* “to learn,” Gothic *lais* “I know”), with a base sense of “to follow or find the track, [...]” “From c. 1200 as “to hear of, ascertain.” Transitive use (He learned me (how) to read), now considered vulgar (except in reflexive expressions, I learn English), was acceptable from c. 1200 until early 19c. It is preserved in past-participle adjective *learned* “having knowledge gained by study.” Old English also had *læran* “to teach” [...]”

These definitions put us on the track of what is expected of the person in charge of stimulating the gamification: we need to take the players by the hand with the intention of accompanying them and helping them to react to the different situations and experiences to be encountered during the game.

A gamification is a series of difficult situations that must be solved. If all goes well, these situations are part of the design provided in the game; if it does not go so well, they will be unforeseen events. In both cases the intervention of the person in charge of the facilitation will be valuable and useful, on the one hand to ensure learning and, on the other, to redirect the players towards them. So the role of the facilitators will be to make sure that none of the players get lost at some point in the game, making sure that the expected practice and continuous learning takes place.



The design of gamification will seek to generate moments that place the player in positions of conflict that require them to make decisions with the intention of provoking learning, requiring the player to discover the concepts and ideas expected to be learned during the proposed activity.

If we go one step beyond, will we be content with just reacting, accepting, and interpreting an idea to get knowledge from it? Or is it to be hoped that we will want to take advantage of the opportunities that gamification opens up for us, generating spaces for discovery, practice, reflection, internalization and learning?

## THE FACILITATOR



**KEYWORDS:**

- Provoke
- Discover
- Use
- Idea
- Acceptance
- Interpretation

### Goals

- Accompany
- Help
- Ensure learning
- Guide

### Responsibilities

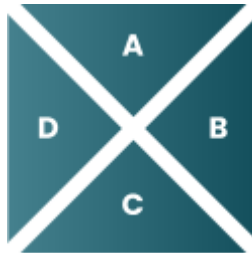
- Follow the guidelines set out in the design, understanding what will be done and what is intended to be learned.
- Guarantee the necessary resources to complete the design of the gamification.
- Assess whether the expected learning is taking place and redirect if necessary (even adjusting aspects of the design).

## ■ The Designer

*“He had discovered a great law of human action, without knowing it —namely, that in order to make a man or a boy covet a thing, it is only necessary to make the thing difficult to attain.”*

*The Adventures of Tom Sawyer – Mark Twain*

When talking about product design, we find in Wikipedia: “Product design as a verb is to create a new product to be sold by a business to its customers.” and so we could also think about *industrial design* of products. If we move this definition to the design of gamification of learning activities: what would mass production be? Surely achieving similar learning outcomes repeatedly and sustained over time. What would then be a useful and beautiful object for our “customers”? Perhaps it would be something like generating and consolidating the desired learning by provoking excitement during the process and pride in the outcome in all actors of gamification.



The teams in charge of designing the gamification experience have a major challenge ahead of them: each person needs to be challenged in the right measure, enough to generate feelings of curiosity and uncertainty that provoke the desire to explore and learn but without exceeding (generating frustration) or falling short (generating boredom). Shortening or skipping will lead to abandonment. Finding the right point of provocation will lead us to the desired intrinsic motivation, fortunately designers, we have two very powerful resources at our disposal:

- We can find an inexhaustible source of ideas and proposals if we take a look at the games that have captivated humanity from the beginning of time. Traditional games have survived because they connect in one way or another with people, the latest generation of video games that are successful are for the same reason. This success is therefore a very valuable source of inspiration.
- Whatever we do, a good team of facilitators who understand the real goals of gamification will be able to rectify almost any design problem. In addition, if during the course of the game and at the end we review them together, little by little our gamification proposals will be increasingly successful. For this reason it will be essential for our designs to make clear why we make a specific gamification proposal and what we hope to achieve with it.

To finish putting more pressure on the design task, we would like to remind you that it is important to keep in mind that people are constantly looking for happiness, that if we do not find it in one place, we will look for it in another one, and that if we cannot leave the place, we will look for it right there by trying to do different things than the expected ones. If a person is not happy with the proposed learning activity they will use their imagination to make their moment a happy one, sometimes even going against the happiness of others, precisely from these situations conflict and problems of coexistence are born.

Is designing a challenge? You can see it certainly is, but if you try to improve coexistence; make people happy<sup>4</sup>; lower conflict; learn from others' ideas; improve learning proposals; generate curiosity, make learning useful, and the way you we do it is beautiful and generates excitement, if all this tickles your stomach, then you are a hero of active methodologies and, in this case, active learning in general and gamification in particular are the most powerful and valuable weapons at your fingertips to achieve your goals and win the war of learning.

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<sup>4</sup> Starting with yourself.

## THE DESIGNER



**KEYWORDS:**

- Challenge and uncertainty
- Curiosity
- Exploration
- Frustration
- Withdrawal
- Conflict
- Happiness

### Goals

- Generate a proposal focused on players.
- Generate a useful proposal which serves to generate the desired learning.
- Generate an equitable proposal inclusive with everybody.
- Generate an easy-to-apply proposal, keeping in mind facilitators and players.
- Generate a replicable proposal, by the same or different facilitation and game teams, with difference of levels and resources.
- Generate a scalable proposal which serves both small and large groups.

### Responsibilities

- Provide game guidelines defining what will be done and what is intended to be learned.
- Define the resources needed to complete the gamification, proposing different solutions appropriate to different realities.
- Evaluate whether the design helps to achieve the expected learning, reviewing it to improve its effectiveness.

# The Thinking Corner

A Role, some Goals, some Responsibilities

## Description:

This organiser will help you discover the goals we hope to achieve and avoid when creating any learning activity in general and during a particular gamification. It will also help you become aware of the concerns of the three roles involved and how they fit into any of the four aspects that gamification strategies help to improve: motivation, learning outcomes, personal skills development, and technical skills.

## Printable version:

We recommend working on a physical version of the graphic organiser by pasting sticky notes on it (or welcoming erasures and corrections), so we provide a link to a printable version.



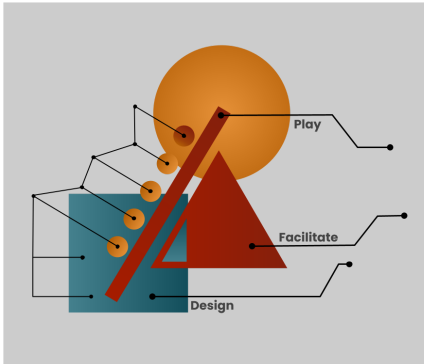
## The Graphic Organiser:

[click here](#)

1) CHOOSE A CHARACTER: Choose the role you want to think about when completing this graphic organizer:			3) CLASSIFY: Classify the goals "I want to achieve" of part 2. in the following table:	
PLAYER	FACILITATOR	DESIGNER	A) Improve motivation	B) Improve results
2) What do you expect from a gamification? Add to each space the goals you expect to achieve and avoid:				
I want to avoid		I want to achieve	C) Develop personal skills	D) Develop technical skills

# The Welcome

## Play to Learn



### What will we do?

Know the features that define a gamification and a learning environment.

### What will we learn?

The close link between play and learning, and the presence of both throughout our lives.

## Why do we need to learn?

Learning happens **innately** in animals. It helps us to discover our environment, to develop our **abilities**, to adapt to different situations, to enhance our social relationships... Can we decide **how and what we want to learn?**

### School:

l: an organization that provides instruction.<sup>5</sup>

### Environment:

l: the circumstances, objects, or conditions by which one is surrounded.<sup>5</sup>

### Gamification:

the process of adding games or gamelike elements to something (such as a task) so as to encourage participation.<sup>5</sup>

<sup>5</sup> <https://www.merriam-webster.com/>





# What Do You Want To Do?

## I Want to Play and Learn

Many times, in many places and in many moments of history, a boundary has been drawn between learning and fun. An imaginary line drawn by different societies and formally projected on the school and other educational environments. Students rest by playing. They take classes and go out into the playground. They complete the day and go to the park, to the street, wherever the group is so that leisure occurs. An artificial versus between playing and learning.

This is a clearly imposed boundary. Naturally, the game and the learning come together in an informal and relaxed way where the mistake takes place in a safe and controlled environment, where it is understood to happen and accepted as necessary in the growth process. If we take a look at the lives of most mammals, we find that from an early age, playing and learning go hand in hand. Among the young and mothers we find tickles, looks, sounds... that arouse the first reactions of the

youngest. We learn to interact with each other by playing.

Later, we begin to experiment with how our body works. Jumping, moving, running, making sounds... are just games that allow us to learn what our physical limits are.

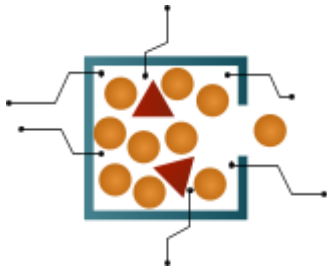
We come to the point where animals—in the most common, though not exclusive, case of primates—experiment with objects in their environment. This interaction with the surrounding utensils is directly related to the neuronal development of the brain and the ability to solve problems in adulthood.



We close this journey through game in animals' lives with the game between equals. Playing with classmates, friends, others... help us discover social norms, behaviors towards others, ethics. With this type of game, we learn to live in society. Learning and games, intimately linked, become 360° throughout life, and appear at any time, situation or

scenario. If we are aware of this, why intentionally separate the game from the formal learning? Is there a need for this division between "let's learn" and "let's play"?

Educational environments can not only remove this boundary but are already doing so. Gamification is already present in countless learning



environments facilitating the acquisition of knowledge and the practice of skills from preschool children to corporate training environments, helping in all cases to improve motivation, involvement and self-esteem of those who participate in such proposals.

It is likely that with good judgment, before deciding if you want to explore the possibility of applying gamification to your context you want to know more and you need to solve a couple of questions, one

obvious: "What is gamification?" and the other maybe not so much, because you may assume that you already have a clear answer, although it may be useful for you to verbalize it: "What is a learning environment?".

# Gamification: What Is It?

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Learning can be achieved in different ways if we accept that it happens continuously in our lives. In formal learning environments we are used to looking for it through simulations, replicating activities, procedures and examples in order to mechanize the way to solve a given problem. This learning helps us to develop technical or hard skills. We learn to solve equations, to recognize a sonnet or to know the contributions of Marie Curie.

In more informal and relaxed environments, learning also comes through playing. By playing, we discover abilities and put into practice different skills, as with simulations. In addition, we add a whole set of social or soft skills that are manifested and developed, such as teamwork; strategic vision; perseverance; frustration management; creativity and so many others are greatly useful for the everyday life of all people.



Gamification is sometimes defined as a strategy of using the mechanics of the game to create an emotional bond between a brand and its users. If we look at it closely, it's a strategy that applies to the business world: raffles, contests, loyalty cards... We know that these elements motivate consumers to buy, it drives them to do something. Motivation. A key piece for everything we propose here to work.

Do you want to design a motivating learning experience that helps you develop hard and soft skills? You will have to choose between two pills:



**The blue pill:** choose this pill if you like what you've read so far, if you want to design a motivating learning experience that will help you develop hard and soft skills. We welcome you, educational gamification is also our great ally.



**The red pill:** if you don't like the blue pill, this guide may not be for you, and you've probably noticed it. However, we invite you to continue reading with an open and critical eye, contrasting and assessing whether gamification can help you. Maybe at the end you will want a blue pill!

Gamification in the formal and non-formal educational environment seeks to offer a motivating learning experience, creating an emotional link between students and the experience that enhances their commitment to learning in order to end up optimizing the results of learning and the development of different skills and abilities.

Among the benefits of using gamification in learning environments, and being clear that the main benefit is that students learn, we can highlight:

- Encourage motivation to learn.
- Attend diversity by offering different levels of difficulty that adapt to the evolution of each person.
- Improve attention and concentration.
- Generate self-assessment and co-assessment.
- Improve problem-solving strategies.
- Stimulate social relationships.
- Encourage teamwork.
- Encourage creativity.
- Generate learning addiction.
- Accept and understand the mistake.

As we play we aim to reach different milestones, to overcome challenges in exchange for rewards. Every time we overcome a challenge, our brain releases

dopamine, a neurotransmitter related to pleasure, memory regulation, creativity, and the mechanisms that make us curious.<sup>6</sup> That is why we must consider gamification as a tool to be considered in formal and non-formal learning environments.

Gamifications are flexible because they can provide open and evolving, almost endless learning spaces. This flexibility makes them ideal for addressing diversity within and outside the classroom, both for people with more learning difficulties and for those who find it easier.

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<sup>6</sup> Delgado J.M.; Ferrús A.; Mora F y Rubia F.J. (Eds.) (1997). Manual de Neurociencia. Madrid: Síntesis.

Kalat, J.W. (2004). Psicología Biológica. Thomson Paraninfo.

Mazziota et al. (2000). Brain mapping: the disorders. New York: Academic Press.

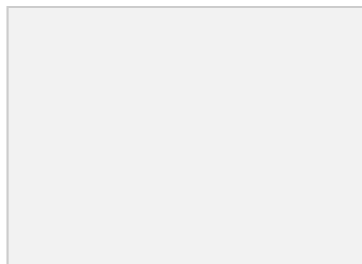
Streit, W.J. y Kincaid-Colton, C.A. (1996). El sistema inmunitario del cerebro. Investigación y Ciencia. Enero. 16-21.

# □ Learning Environments: What Are They?

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Whether physical or virtual, we understand as a learning environment that area where learning takes place and includes all the elements involved: teachers; youth workers; educators; methodologies; cultural context; spaces, resources and, of course, students and youth, who become the center of everything. In fact, a learning environment does not make sense without the presence of at least one person whose goal is learning. The rest of the elements, including teachers, youth workers and educators, are facultative.

It is common to use the concept of learning environment as a synonym for the classroom, the physical space where we usually find a group of students and a teacher. It must be borne in mind, however, that although the classroom is a learning environment, of course, not all learning environments are in the classroom. In fact, we can understand a learning environment as that space, physical or digital, that surrounds the person who aims to learn.

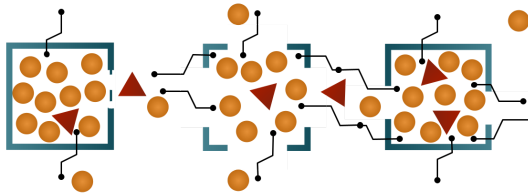


We can classify learning environments based on their different features. Thus, we can define whether they are physical or virtual; if they are generated by teachers, youth workers, educators, students or all of them; whether they are formal spaces, such as an institute, or informal ones, such as a theater, a museum or a youth information point. We can even consider how to link everything, the methodologies

used, how to evaluate, and so on.

Working within the framework of any educational institution, we find a fairly defined learning environment, but as teachers, youth workers and educators we must keep in mind that, always respecting the educational project of our institution, we have the ability, and of course the obligation, to finish designing the environment that works best with our students or young people, and adapt it as many times as necessary, taking into account the context around us and, of course students and youth, because as we have said, the only common and necessary element in all learning environments is the person who learns.

The design of a learning environment must take into account the characteristics of students and young people, learning objectives, activities that are best suited to the desired learning and assessment strategies that we allow to measure it.



Where does a learning environment end? Does it have any limits? These questions can be solved by going back to the key to any learning experience: a learning environment is where there is someone who aims to learn. From here, things get trickier, and this is where the true learning takes place. But isn't a street, a square or a shopping center also a learning environment? Does learning occur when a 5-year-old girl meets her teacher and, as she is about to cross a street, the teacher looks at her, greets her, and patiently waits for the traffic lights to turn on green before crossing? With our behavior, we become role models and then we all become mutually teachers.

And another question... can we connect multiple environments? At this point we already have an answer: of course! Learning environments are permeable, with inputs and outputs, and become where someone wants to learn, moving with them. That said, in educational institutions, where environments tend to be limited by spaces, we need to find ways to connect those environments, to make learning

richer. We can open doors, take advantage of common spaces, mix groups, invite external agents... looking at all times for the concept of learning space to move away from the synonym of classroom and truly become a common space for the whole institution and the whole set of people who are part of it, that is, their community.



# The Thinking Corner

I Want to Play and Learn

## Description:

This organizer will help you discover what alliances you can establish with the context close to your learning environment. Becoming aware of what you need, who can help you and what you can offer will make it easier for you to establish strategic connections between your learning environment and the entities around you.

## Printable version:

We recommend working on a physical version of the graphic organiser by pasting sticky notes on it (or welcoming erasures and corrections), so we provide a link to a printable version.



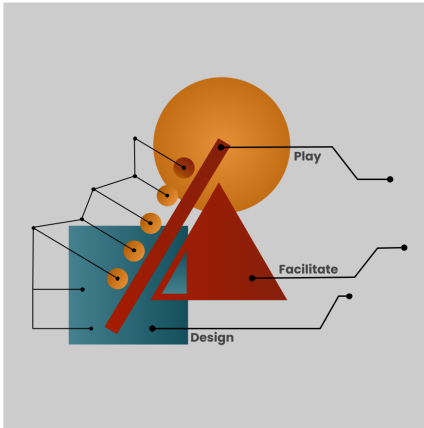
## The Graphic Organizer:

[click here](#)

1) DEFINE MY ENVIRONMENT: Add the elements that make up your learning environment		2) WHO CAN HELP ME? Add entities of your context that can help your learning environment in some way.	3) WHO CAN I HELP? Add entities from your context to which you can help from your own learning environment.
WHO DO I HAVE? Nearby people:	WHO would I like to have?	ENTITIES THAT CAN HELP ME:	ENTITIES I CAN HELP:
WHAT DO I HAVE? (Available resources):	WHAT would I like to have?	CAN HELP ME IN/WITH:	I CAN OFFER:
CURRENT LEARNING: What learning is being generated?	WHAT LEARNING would I like to generate?	The entities that appear repeatedly in columns 2 and 3 are interesting alliances to explore as they can indicate Win-Win spaces:	
		I WIN	THEY WIN
			WE WIN

# Why Gamifying?

Designing Thinking in the User



## What will we do?

Choose our role as heroes in the process of creating and/or executing the gamified learning experience.

## What will we learn?

The different responsibilities that actors and actresses involved in a gamified learning experience have to take on.

## Why do we choose a character?

To be able to read the part of the guide where the **goals** to be achieved and the **responsibilities** of the role you have to play in gamification are presented. Will it be up to you to enjoy the game while you learn? Or maybe you need to accompany and guide the players? Or are you the designer and creator of the **gamified learning experience**?

## To play:

to exercise or employ oneself in diversion, amusement, or recreation.<sup>7</sup>

<sup>7</sup> <https://www.dictionary.com/browse/play>

# Being the Hero of the Learning

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Have you ever wondered the purpose of the learning environment in which you participate? This question that individually may have an obvious answer for each of us may not be as obvious as it may seem on a personal level. In any case, in order to start working consistently as a team, we need to first become aware, individually, of this goal:

What is the *raison d'être* of the learning environment in which you participate?

Now that you have answered this question, you will be ready to ask the same question to those involved in your learning environment. Doing so will open you up to discovering the points of agreement and divergence between all of you. Divergences may enrich your response as a collective, but you may also discover points of friction that can

lead to more or less poignant conflicts that can lead us to waste time and energy that none of us wish. Becoming aware of matches will move you forward with a firm step toward your shared goal.

Now that you've gathered your answer, and perhaps that of those around you, we're asking you to do some syntactic analysis. Your answer will be constructed with one or more sentences made up of a subject and a predicate. According to [collinsdictionary.com](http://collinsdictionary.com), the subject is: "[...] the noun group that refers to the person or thing that is doing the action expressed by the verb.". Can you review your answer and indicate what your subject is?, that is, what is your essential element?

What is the main subject of the learning environment in which you participate? (*If there is more than one, you can sort them in order of importance*)

Since you are being generous and you are sharing your thoughts with us, we

will answer you and give you our answer to these two questions:

What is the *raison d'être* of the learning environment in which you participate?

To offer those who participate in gamification spaces for learning and personal growth, where they can discover and practice technical concepts and personal skills, in a healthy environment both physically and emotionally.

What is the main subject of the learning environment in which you participate? (If there is more than one, you can sort them in order of importance)

Players are the essential subject.

Other subjects would be: learning, technical concepts, personal skills, professional skills...

Subjects that have not been evident in the previous answer but that we now see could come out: who facilitates, who designs, who manages, who sets guidelines or regulations that affect us...

As you can see, when thinking about the subjects, two very important things will happen to us:

1. Subjects may appear to us that we did not initially anticipate.
2. If we prioritize the subjects involved and everyone becomes aware of what the essential subject is, all of a sudden we will all work giving top priority to what we have considered most important.

It is not at all trivial to be aware of what comes first and do it in order. It is not the same deciding the order:

1. *Who trains/educates.*
2. *Who learns.*
3. *Learning, skills and abilities.*

than opting for:

1. *Learning, skills and abilities..*
2. *Who trains/educates.*
3. *Who learns.*

or deciding that our preferred order is:

1. *Who learns.*
2. *Learning, skills and abilities.*
3. *Who trains/learns.*

Yes, for us the first thing is the people who have to learn and that marks our decision to strive to design gamification-based teaching and learning environments.



Putting those who have to learn as an essential subject of our designs immediately aligns us with everyone who over the centuries has had to put themselves at the service of the rest and has been successful in their work: after all, from the merchant<sup>8</sup> who gets the best silk for his clientele to the author of the Sistine Chapel<sup>9</sup>, to the best chefs<sup>10</sup> in the world, all of them have

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<sup>8</sup> The Silk Road was a network for the exchange of products, culture and knowledge from 130 BC. until the fourteenth century.

<sup>9</sup> Pope Julius II commissioned Michelangelo to decorate the Sistine Chapel. You can find out more at: <https://www.nationalgeographic.com/history/magazine/article/michelangelo-renaissance-art-sistine-chapel>

<sup>10</sup> Ferran Adrià presents the Sapiens method adapted to education (a method that led El Bulli to be recognized as the best restaurant in the world in 2002, 2006, 2007, 2008 and 2009) in the “Escuelas Creativas” collection: [https://www.fundaciontelefonica.com/c](https://www.fundaciontelefonica.com/cultura-digital/publicaciones/escuelas-creativas/612/)

fulfilled orders dealing with the wishes and needs of third parties people, often above their own.

Many of the professions in the technological world in which we live have long realized that above their products and proposals the most important thing is to help and respond to the needs of people, it is necessary to design by placing them at the center of all actions. In the world of computer science, marketing, industrial design, leisure, education... This has been called: **User-Centered Design**<sup>11</sup> and over the principles proposed in it we will build our proposals of gamification of teaching and learning activities.

If our product is learning, can we place it because users need it? Not even for an indirect interest? Isn't it because while they're buying them, they're just having fun playing?

In any case, we suggest you never forget that gamification can be the hook that serves to ensure that those who participate in gamification can reach the discovery of the naked pleasure of learning.

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[ultura-digital/publicaciones/escuelas-creativas/612/](https://dschool.stanford.edu/)

<sup>11</sup> We recommend that you visit <https://dschool.stanford.edu/> to learn more about User-Centered Design.

## ● User-Centered Design

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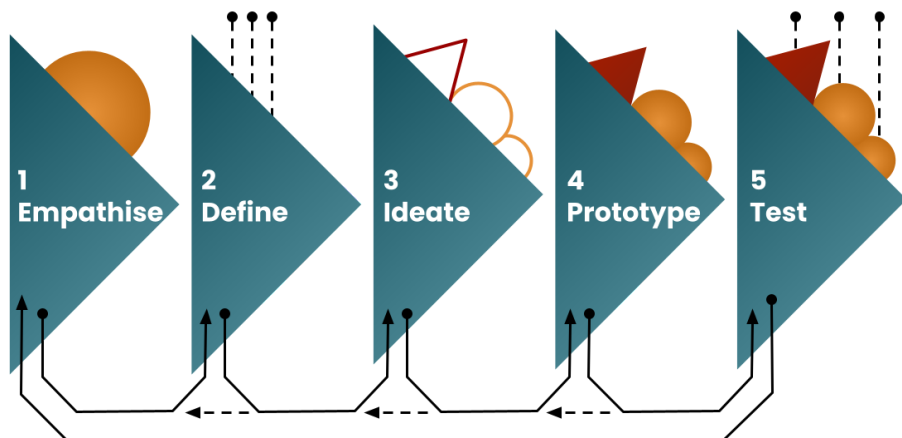
Traditionally, schools and training spaces have taught us at DOING but it turns out that in real life this is not enough. To provide solutions to the challenges and problems of a changing environment such as the current one, we need to go further, plan, evaluate what we have done and continuously adjust our proposals. The advent of technology is delivering humanity from having to perform cumbersome and repetitive tasks, this process that began in the 19th century with physical tasks is being completed in the 21st century with intellectual tasks where bots are able to write small newspaper articles, bring old images to life, or answer the most frequently asked questions on a telephone helpline. If technology is getting better at DOING, what do we humans have left? Well, we have the best job left, machines still don't have heart, feelings, soul or imagination, so we have the most beautiful part: designing thinking about people, we have creativity, empathy, imagination, planning, evaluating results and try to find the best solutions for people, as people.



In the summer of 1973, Dr. Bernie Roth wrote a paper entitled "Design Process and Creativity" which gave way to the model proposed by Stanford University to guide the creative process of everything that is designed and used by a person: *Design Thinking*. Everything you use, from the chair you may be sitting in while reading this text to any of the applications you open on your electronic devices, is very likely to have been created or improved following the guidelines of Design Thinking. Are there people in a learning environment? Can we design learning according to the guidelines that allow us to create products and services in any area of life? Sounds likely, right? Well, the time has come to get to know *design thinking* better.

User-Centered Design establishes 5 stages that must be completed to design a product or service, in our case a gamified teaching and learning activity. These 5 stages can be followed sequentially and completed cyclically, the first time with the intention of obtaining an initial prototype that we

will later test and improve in each round of the design process.



## ● The stages of the UCD

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**Idea:** you can't design for what you don't love, and you can't love if you don't empathize beforehand, even if it's a bit, with the target audience of your design.

**Design evidence:** there are many tools to empathize but all go to better understand the user, their needs and their context: maps of actors and actresses, analysis of the 5 Whys, SWOT matrices, moodboards...



**Idea:** you cannot solve all the problems at once nor is all the information relevant to all the problems. We need to focus on a problem and do "mining" among all the information gathered in the "Empathize" phase to find the information that will help us come up with proposed solutions.

**Design evidence:** there are many tools for filtering and focusing, all of which involve awareness, making visible and sharing with the design team the goals and indexing the candidate information to help: generic canvas, specific canvas for a given problem, mind maps, infographics, timelines, RACI matrices, selections for classification...





### 3 Ideate

**Idea:** you may not know that you have found the right idea if you stick with the first one that comes to mind. Moreover, it is very likely that your first idea is quite obvious and resembles the one that others would have given. Many ideas need to come up to find divergent, creative, unexpected proposals, or make sure the most classic, conservative solution remains the best of the proposals.

**Design evidence:** there are many tools to generate ideas, they all take enough time and confidence to give rise to ideas that will help us to come up with a solution... and those that do not: brainstorming, SCAMPER, Six Thinking Hats, CAME matrices...



### 4 Prototype

**Idea:** paper holds it all, reality doesn't. Try to draw a memory bike, without consulting any external reference, ask your teammates the same thing, when you finish comparing the proposals with a real bicycle, will you be able to use your proposals if you really build them? It is very likely that your designs are not viable; it is okay, it is a demonstration that ideas must be taken from the world of dreams to the earthly world. At this point the initial idea begins to be refined. A prototype can be a version of the complete system or a viable part of it.

**Design evidence:** there are many tools for prototyping, all of which go to make the selected idea more tangible: drawings, models, storyboards, system maps...



**Idea:** we cannot know that we have designed well for the user if we do not use a user. We need to validate our proposals by making a meeting between prototype and proposal while we observe with the intention of detecting defects, shortcomings... and what works! This experience is needed to re-empathize with the user, return to the starting point and once again complete all the steps that should lead us to test an improved version of our proposal.

**Design evidence:** there are many tools to test and validate, all of which are to make a goal observation that contrasts to what extent we are approaching to address the needs initially anticipated: evaluation of experience, usability tests, NUF selection (new, useful, feasible), review I like/need to improve ...

As you can see, each “Design Evidence” section of each of the stages of User-Centered Design gives you clues to design tools that can help you in your work, both for when you work alone and for when you do it as a team. We recommend that you visit pages such as <https://www.designthinking.es> or <http://metodologiasactivas.es/><sup>12</sup> where you will find examples and explanations of some of these tools. In any case, if you open your favorite web search engine and make a query, you will surely find a good handful of answers that will allow you to learn each technique and see real examples of its use.

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<sup>12</sup> These websites are in Spanish. You can visit websites in English like <https://designthinking.ideo.com/> or <https://www.ideo.com/pages/design-thinking>.

# The Thinking Corner

I Want to Play and Learn

## Description:

This organizer will help you discover the goals that generate consensus among all the roles involved in a gamified learning process. Identifying these goals will help you become aware of them and prioritize those that have the most impact among all people in the learning environment you want to design.

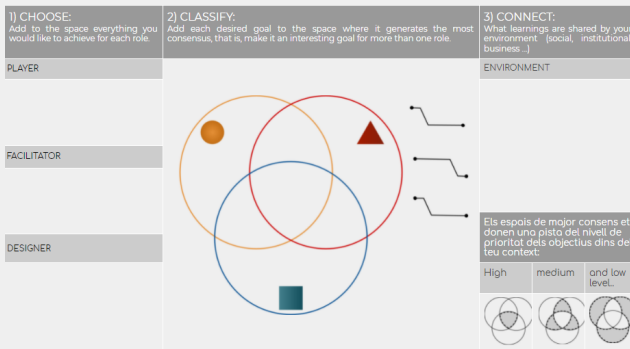
## Printable version:

We recommend working on a physical version of the graphic organizer by pasting sticky notes on it (or welcoming erasures and corrections), so we provide a link to a printable version.



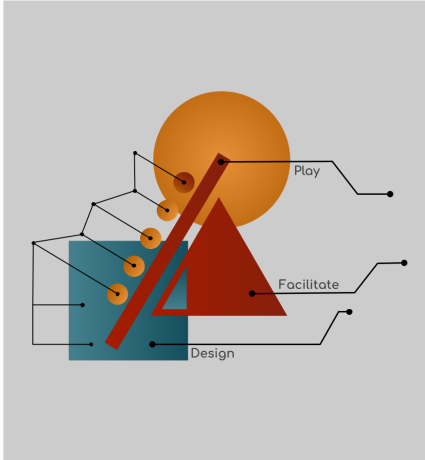
## The Graphic Organiser:

[click here](#)



# What is Necessary to Gamify?

## Elements of a Gamification



### What will we do?

Design our own compass that allows us to orient ourselves in the design of gamification, including all the minimum elements of a gamification.

### What will we learn?

The basics of any gamification in general and gamification for learning in particular.

## Why is a compass necessary?

To understand and value gamifications already created and to be able to execute or redesign them being aware of the basic elements that make it work as a complete whole.

To design gamifications from the very beginning being aware of the basic elements that make it work as a whole.

## Compass:

[ C ] a device for **finding direction** with a needle that can move easily and that always points to magnetic north.<sup>13</sup>

<sup>13</sup> <https://dictionary.cambridge.org/dictionary/english/compass>

# The Compass of Gamification

*"You open your eyes and you see that you have woken up in the darkness of the vegetation, yesterday you were running by the sea, suddenly the sky lit up with a blinding light and you don't remember anything else. Now you've woken up not knowing where you are, you realize you don't have your sunglasses, or your cell phone, or your watch... with a sense of disorientation you've never had before you deduce, from the height of the sun, that it is growing dark and you need to find a safe place before it gets completely dark.*

*As you scratch your head you wonder how to combat the feeling of confusion and come to the conclusion that you are missing information. You decide to climb a palm tree to improve your point of view, you're in luck!, far away, on the horizon, you see the sea and a column of smoke that must come out of a fireplace. It seems like you're on a treasure island, now that you've been able to orient yourself in time and space, you decide to start walking towards your goal, without wasting any more time and hoping to find some answers."*

This short story has the elements of the beginning of an adventure, if we understand the design process of a gamification of teaching and learning activities as a journey that must bring us closer to desired goals can be that, initially, we find ourselves as our character: confused, lost and even afraid of the uncertainty of what the journey may bring us. What do we need to do to be a little safer? On the one hand, set goals and, on the other, tools to guide us. We already have the goal (learning in an organic way while playing), now we have to find the tool that allows us to orient ourselves. This tool could be an electronic geolocation device, but the compass is much more romantic, you can't lose coverage and your batteries never run out, so: we want to find the gamification compass!



A compass insists on always marking the north, so it seems reasonable to define this cardinal point first, but instead of the geographical, that of gamification. How about thinking together?

To get you started, we ask you to point out elements of games you know, from the beginning of time to the present day.

Do you already have it? Did you get too few items? Keep looking! We'll give you some clues: do you have a dice? Do you have rules? Do you have tokens representing the players? Keep pulling the string and add even more elements. And now? Do you have many? Well, then we can keep playing.

Now that you have many items, can you group them into categories? The challenge is to focus on what I can count on the fingers of one hand or less. Did you get it? Did you group, for example, dice, roulette, cards ... into randomly generated elements or did you say uncertainty instead of chance? A conflict? If you still have more than five categories after grouping, can you group categories? Do you already have five or less? So write them down here.

Categories of a gamification	
1.	
2.	
3.	
4.	
5.	

We have done the same exercise and we have come up with five categories we'll share with you:

The gamification compass	
1.	<b>Category</b> of elements that make the player live a story. We called it " <b>Personal experience</b> "
2.	Elements that allow us to join forces to defend or attack. <b>Category: "Alliances and enmities"</b>
3.	Elements that define goals to achieve and avoid and force us to make decisions. <b>Category: "Missions and decision-making"</b>
4.	How we want to play to learn will also need the <b>category: "Measure learning"</b>

To check if our compass works we invite you to choose a game and see if all the elements fit, think of the parchment or the platform video game you like best and think: do all its elements fit into any of the categories? Are any items left out of any category?

## ● A Personal Experience

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The smallest of gamifications increases the motivation to get emotionally involved in the proposed activity. We circulate through modern life with equipment designed to survive instinctively. If we are in a comfortable place, this equipment is in a standby mode similar to that of electronic devices, it seems to be off, but it is not, it is alert, watching if our environment is safe. Once this security mechanism senses any danger, it will activate the emergency protocols and enter defense or attack mode in proportion to the perceived level of insecurity. In fact, playing serves to practice and train our reactions for when a real threat arrives. To play is to simulate a conflict environment knowing that we are in one safe environment, it seems logical that this is the reason why we are naturally programmed to play, it is a matter of personal safety.

When we conduct an activity there are times when we need the attention of the audience and their more or less active participation. Perhaps the most basic interaction in this regard is to be making a presentation and launching a question to check that your message is coming to fruition. If we have created a hostile environment, it is likely that no one will respond, if the environment is of genuine interest we may have to moderate and put in order the desire to respond. Luckily we don't usually find ourselves at either end and we move in a diffuse area in the middle.



If we're not lucky enough to have a genuinely motivated audience, can we do some magic? Can we activate motivation in one way or another, even if it neglects our

initial goal for a moment? What if we do it with the intention of taking advantage of this initial movement to take advantage of the inertia of the motivation generated and redirect it towards the desired goal? We will do all this sleight of hand in the hope of ending up generating genuine motivation towards the initial theme and the will to generate the planned learning, even if it is a product of the distraction movement. We will have done so much like the magicians, that while they make you look to one side they make a dove appear from their top hat making that bird become fascinating and that we cannot stop watching it.

How can we make a question that falls into indifference more interesting? What distraction movement can increase motivation? It is still curious that the TV grid is full of contests where basically questions are answered: answer 15 questions and maybe you will be a millionaire, or if you make a mistake, explode a bomb, or if you get it right, you have time to have more chances to win the test final, or... We want to play so deep that sometimes we don't even need an external reward, we will play just for the simple fact that the feeling of competition motivates us, some people to be first, others to be ahead of a friendship (or an enmity) , and others simply for not wanting to be in last place, but in one way or another, whoever comes into play has been involved and now feels the activity as a personal experience. This is the key, the smallest of gamifications makes the activity a personal experience and this is a discovery that changes everything.

If as gamification designers for training we have become aware that these activities become a personal experience, the next question to ask ourselves is: what personal experience do I want players to live? What will catch them the most? A boring journey or a journey full of emotions, an adventure of calculated dangers with the possibility of finding rewards and treasures while living a process of personal growth?

At this point we have to face the challenge of creating a learning-generating adventure. How is an adventure created? If you know how to do it: perfect! Your help will be invaluable in this part of the design of the gamified experience. If you don't know where to start: we need help! Who knows how to do it? Who designs adventures every day? Exactly! Novelists, television, film or theater screenwriters... It seems like a good idea to get a little closer to these people and their world.

In the mid-1940s, writer Kurt Vonnegut presented his thesis "*The Shapes of All Stories*"



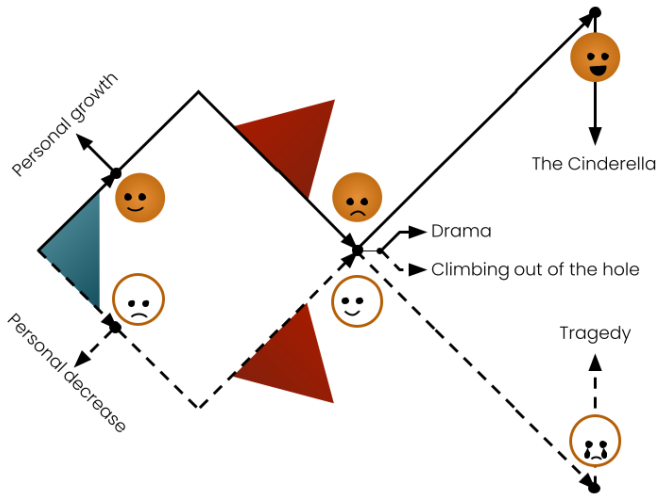
in which he proposed that all written stories that have trapped humanity follow one of six emotional arcs. In 2016, researchers at the University of Vermont presented the paper "*The emotional arcs of stories are dominated by six basic shapes*"<sup>14</sup> where, applying data mining techniques on classical works preserved in the Gutenberg project<sup>15</sup>, they scientifically confirmed what Kurt Vonnegut he had pointed out 70 years earlier: all the stories analyzed could be ascribed to these six emotional curves:

1. **Constant and continuous increase** of emotion, where the heroes grow from a low emotional point to a much higher point. It corresponds to stories of personal growth whether on a physical, emotional, social, intellectual level (like *Alice in Wonderland* or *The Croods*).
2. **Constant and continuous descent** of emotions, where the heroes go from a high emotional point to a much lower point. It corresponds to tragic stories where the physical, emotional, social, intellectual level is decreasing (like *Romeo and Juliet* or *Amadeus*).
3. A **great descent and an ascent**, where the heroes fall into disgrace and manage to get out (As in *The Life of Pi* or *The Crystal Jungle*).
4. A great **emotional rise** and then a great **fall** into disgrace (as in *The Myth of Icarus* or *Thelma and Louise*)
5. Emotional **climb, fall** into disgrace and **climb back up**, even higher than on the first climb (like in *Cinderella* or *Pretty Woman*).
6. Emotional **descent, ascent** and **fall** to an even lower level than in the first fall, this arc reinforces the sense of tragedy that the arc of a single emotional descent already has (as in *The Myth of Oedipus* or *Inglourious Basterds*).

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<sup>14</sup> Reagan, Andrew & Mitchell, Lewis & Kiley, D. & Danforth, Christopher & Dodds, Peter. (2016). The emotional arcs of stories are dominated by six basic shapes. EPJ Data Science. 5. 10.1140/epjds/s13688-016-0093-1.

<sup>15</sup> <https://www.gutenberg.org/>



In fact, it's fun to think about the stories we like no matter the format (book, board game, video game, movie, series...) while trying to find the underlying emotional arc<sup>16</sup>. In the case of having to make gamified learning activity designs that last more than a day, it is very interesting to think about the format of the series, which have an emotional arc in each chapter and at the same time keep an emotional arc alive. transversal that gives meaning to the whole season.

Now that we know the skeleton that holds a story, we can ask ourselves a few questions:

- What emotional arcs promote the desire to continue learning? Even after the teaching and learning activity.
- When we design: what emotional arc will facilitate our goals and do we want players to live? (It must be remembered that they will live it as something of their own).
- As facilitators: are we aware of how our actions, from the smallest to the

<sup>16</sup> At <http://hedonometer.org/books/v1/> you can view the emotional arcs of an extensive catalog of books, if you like cinema more you also have this option: <http://hedonometer.org/movies>

largest, make players experience one or another emotion?

- As facilitators: are we aware of how our actions can reinforce or break the emotional arc proposed by the designer?

If the emotional arc is the skeleton that underpins any gamified teaching-learning activity, the plot arc and setting are the muscles that will give you strength and movement.

Just as we learn from the person who writes, scripts, or creates video games, we can learn to play with emotional arcs, and we can learn to play with plot arc and setting. There is no story that is not set in a place and a time, whether in the present, past, future, based on real events or the most imaginative of imaginations. There is a popular culture based on these stories and worlds already created that we can use in our favor, doing so will greatly facilitate the initial connection with our players, on the contrary you need to know a lot of the codes of each imagined universe to respect them, if we break them we have to do it with conscious intention and having a clear criterion and goals, not doing so makes us run the risk of offending a legion of fans and that this aspect takes more importance than the proposal of the gamification we want to do. It would be difficult to explain the appearance of Voldemort, a Pokémon and Juliet evolution in the same gamification (although if we propose it and put a little imagination into it it is certainly possible and even interesting).

So, the challenge is to create an atmosphere and a plot arc that conveys the gamification of the learning activity by connecting emotionally with the players. These goals are the very definition of a technique used in marketing and advertising, storytelling. Once again we are going to look at who is already doing things that can help us to adapt them to our context and thus go more safely and quickly. What elements of storytelling can help us get players to live a **personal experience**:

1. **Connect emotionally:** to activate the emotional and instinctive connection of the people participating in the game we must begin the story based on the real world of the players. This is part of the User-Centered Design and asks us to research to find the obvious and not so obvious concerns of the players. The more we hit right now, the more powerful the connection will be. Think horror movies, don't they include some scenes from the beginning to show you how the heroes look like you? Isn't this a way to awaken your

emotional bond and make their fear yours a little later?

When we design, we propose a staging that emotionally links players and players to the universe they are about to enter.

2. **Setting:** at what point in time and space will the game take place? We need to define a safe environment where it is clear that we are playing and that venturing will be a calculated risk with no catastrophic consequences either emotionally or physically for any of the participants. Will we be in outer space inside a spacecraft dedicated to interplanetary mining? Will we be on the beach we have near the house where the first traders of Classical Greece landed? Will we be in the same neighborhood where I live? (In this case we will have to make the other elements of the storytelling make it clear that we are playing in a safe environment).

When designing, we propose a safe play environment, where the mistake is always the step before reflection and learning.

3. **The emotional arc:** what emotional arc will our players experience? What emotional arc will achieve the great goal of generating love for learning? If we like stories with a happy ending it's because we tend to empathize with the character and we like to take that feeling of happiness inside us. If you agree with this opinion, you will probably think, like us, that we need to get participants to live exciting stories in a positive way, such as personal growth, fall and exit from the well or the cinderella. If you are not used to doing these activity designs being aware of the emotional arc we recommend you start by creating short activities that play with personal growth, when you take security you can risk designing longer lasting activities by trying the arc of the fall and exit of the well or the Cinderella.

When we design, we will guide the game to make it easier to become the intended emotional arc, all elements must push us towards the intended path and, moreover, they must do so in a transparent way in the eyes of the players and, if possible, of the facilitators.

The elements that shape **personal experience** are not enough to create the plot arc that should give life to your proposed gamified teaching-learning activity. If you

have not defined them yet, you will need to shape the elements that will serve to weave **alliances and enmities**, create the catalog of missions including the **decision-making** mechanisms that should allow you to move forward and, finally, define the elements of evaluation and qualification that must allow to **measure learning** with the glance put in the progress and the final results obtained.



## ▲ Alliances and Enmities

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Participating in a game makes us part of a group, in fact every social animal plays as a child to become stronger, entertain and practice their coexistence skills and everything they learn they use in their serious and adult life.

Designing a gamification allows us to influence the sociograms that occur naturally in the learning environment. As always, before making a gamification proposal we must think about what goals we want to pursue and then make design decisions that promote and bring us closer to the desired results. Any aspect related to coexistence between people is likely to become a design goal of gamification. For example, if we want to make it value inclusion, we will do challenges where diverse abilities are an added value (a person with vision problems may develop a sense of hearing superior to the rest, a migrant person will bring their own cultural traits, such as a language that the rest of the group does not know or knowledge of a local fable, custom or history that can help solve a challenge). In the same way that we design with inclusion in mind, we can also think about making contact between groups already created within the group more permeable, or breaking down barriers arising from gender discrimination, or putting people of different ages in touch, breaking limiting barriers between different social roles in the context...

When designing gamification we will also need to think about whether we want to promote individuality, teamwork, or both. Defining these options will lead us to propose challenges where we participate, win and lose cooperatively or competitively. For example, a treasure chest can be opened with a single key that will give power to a single person or with 5 different keys that must be rotated at the same time from different points in the room.

If we think about the narrative structure of gamification, we need to think about the heroes of the game and their opponents, the antagonists. Widgets, challenges, traps or threats due to lack of resources are generators of conflict that tend to be quite static. The antagonists have their own will, as much as the heroes, and this makes them able to contribute much more dynamic, versatile and interesting conflicts. Not in vain does the dictionary define the antagonist as: "who is in struggle, in opposition, with another".

## Alliances and enmities



So what are the minimum elements that we need to define regarding the people participating in the game and the relationship between them?:

- **The “I”:** who are the participants in real life? Who will be the heroes in gamification? What attitudes and skills do we want to promote? Which ones do we want to avoid? It will be necessary to define who the players will be in this simulated life that the game becomes. Will we be a group of crazy scientists? Or legionaries of the Roman army?

When we design, we will define the characters to be embodied by the participants, an art that can include physical, cultural, emotional aspects... This definition will facilitate the link between the real person and his avatar, and will also make available to the participants to practice attitudes and aptitudes proper to their role, different from those which they embody in real life, opening up opportunities for reflection and growth.

- **The good and the bad ones:** with antagonists the motivation is guaranteed, the heroes will partner with each other to defeat them cooperatively or they will go to battle based on our prediction of how an antagonist should be defeated. What seems to be just one way to enhance fun can be very helpful in influencing the classroom living environment, especially in high-conflict training environments. There is nothing that unites more than having a shared goal, the most enemies of the enemies will ally, even temporarily, to defeat their common supra-enemy.

Becoming aware as designers that we have this power at our fingertips

can be transformative, we now know that we have the ability to make it much easier for facilitators to do their job, especially in difficult environments, where they need it most.

- **The increased abilities:** exaggeration is part of the game and is another element that increases motivation. Within the game participants can increase their abilities immediately and become, at any moment, the smartest person, faster, stronger, more empathetic ... from one moment to the next. In addition it can be an innate characteristic that just like you have can be lost. Increased abilities help to facilitate the game as they can be won or lost due to external reasons (be it the sting of an insect, the use of a gadget, a touch of magic ...).

When we design we will define a list of these increased abilities and their forms (power, skills, weapons...) that will also become strong candidates to represent benefits or harms gained or lost depending on the fate of the game.

Thinking about heroes and antagonists is the bare minimum needed to start defining characters and weaving the relationships between them. When we make our first designs, this will be enough to make our proposals, but if we want to enrich the stories and create more complex stories and characters, this strategy will soon fall short. Professional screenwriters are familiar with a tool that allows them to make much more complex and dynamic definitions: the enneagram. All personalities have two forms of behavior, one that manifests itself when there is conflict and one that does so when there is no conflict. Both forms of behavior can be used to create plot threads that allow you to move forward and make the story interesting.

Type	Motivation	Constructive	Destructive
------	------------	--------------	-------------





		<b>behaviour</b>	<b>behaviour</b>
Reformer	Doing the <b>right thing</b>	Search for the truth	Correct the others
Helper	Being <b>loved</b>	Help the others	Manipulate the others
Winner	Being <b>admired</b>	Personal growth	Compete continuously
Individualist	<b>Understanding</b> themselves	Personal knowledge	Get lost in fantasy
Investigating	<b>Understanding</b> the world	Analyze and understand everything	Disconnect from the world
Skeptical	Feeling <b>safety</b>	Loyalty	Distrust
Enthusiast	Being <b>happy</b>	Explore and appreciate life	Get lost in feelings of confusion
Leader	Being <b>independent</b>	Strength and determination	Control the others
Peace-maker	<b>Join</b> and keep joined	Accept the difference	Self-deception and seeing union where there is none

When we design gamification we are always moving to two levels: one affects what happens inside the game (**character level**) and the other affects what happens outside (**actors/actresses level**). Becoming aware of the enneagram proposal can help us know what will calm or stress each character and use it to create a dynamic and interesting story, but we must also keep in mind that the participants will take part in the game manifesting one or the other personality. Gamification must allow

us to influence the behavior of players and players and not just the characters. We must remember that **the enneagram is not a magic tool** and we cannot make the mistake of labeling people in a simplistic way, it only makes it easier for us to design stories, and to participate in them, in a more conscious and professional way.

We recommend you start with simple proposals based on the definition of heroes, antagonists and the conflicts arising from their relationship and take more and more risks, gradually introducing elements of the enneagram or other classifications of personalities. If you want to know more, we recommend you visit the website [www.9types.com](http://www.9types.com), especially the diagrams where you can see the construction and destructive cycles of each or take the test at <https://www.16personalities.com> and discover the descriptions found on the same website.

The elements that shape **alliances and enmities** are not enough to complete the plot arc that should give life to your proposal of gamified learning teaching activity, if you do not have them defined you will still need to shape the elements that should serve to turn gamification into a **personal experience**, create the catalog of **missions** including the **decision-making** mechanisms that should allow them to move forward and, finally, define the elements of evaluation and qualification that should allow **measure learning** with an eye on progress and the final results obtained.



## ■ Missions and Decision-making

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They say that life is pure theater, that we are all actors and actresses in a universal play where, when we walk out the front door, we put on one of our masks to act on the stages we have to step on that day. If they let you choose, what play would you like to star in? You would probably choose to do good theater, full of comedy, placid moments, good humor and positive experiences surrounding charming people, but life is not always like that and you have to train for different scenarios. Gamification gives us the opportunity to train for these different situations and always do so in safe environments where it is planned what recovery will be like after a setback (in the worst case starting a new game).

When we design, we play, to a certain extent, to be almighty beings who decide what the piece of life that will be lived when participating in the game will be, creating the plot line that the participants will have to follow during the game. There are two elements that must be used to keep the game alive:

### **Missions and decisions**



- **The big problem:** without conflict there is no action or motivation. We humans are very careful with our own energy expenditure, our survival mechanisms make us programmed to get the maximum benefit with the least effort. It does not make us more or less lazy to not spend energy, here there is no difference between one or the other, what differentiates us between motivated and settled is our ability to plan and have a long look that makes us predict that today's inaction will be a greater expenditure of our own energy tomorrow. This planning makes us take the initiative, either because what we anticipate scares us or generates excitement.

The big problem gives us the great goal to fulfill and the transversal motivation that must give coherence and keep the story alive at all times and especially in those moments of transition between small problems. Great classic goals would be to find a great treasure on a lost island (based on illusion), save the planet from a great threat, or preserve the way of life in your neighborhood (based on fear).

When designing the game we will have to define a big problem that must keep the participants scared or excited from its beginning to its end.

- **The small problems:** "divide and conquer" is a phrase that not only serves to talk about the enemy, it also serves to find the way to solving seemingly difficult problems. If we are able to divide a problem into small portions we can link a path that leads us sequentially through a series of small problems that can be solved. Just wait! Let's think about it! What keeps us from drawing more than one path? Nothing! Can this atomization of problems be a strategy that brings us closer to personalized learning tailored to each participant? Well, it is. In addition, recording the completion of the various stages of this path can help us to keep track of the progress and evolution in the game of the participants.

Having a series of small problems helps us keep our motivation alive as we move closer to achieving the big problem. The small missions can be used to partition the big challenge and thus allow us to give solutions to crumbs or to train and to develop the abilities that we will need to face the great final challenge. We can also use small missions as a way to manage the stress level or fatigue of the game. For example, after a very serious and

difficult mission, an easier one can come and make use of humor. Small classic goals would be to defeat small level enemies or solve challenges that should allow you to gain information, new skills, powers, tools... and will be useful later.

When designing gamification we need to provide learning paths with shortcuts, longer paths (perhaps a little easier) or visits of added interest that are not essential for the development of the game but that do give you excitement or enrich your universe. If these shortcuts, easier paths, or extra spaces are connected with learning we will be creating personalized learning spaces far beyond the reach of sequential learning environments.

The narrative structure can be as detailed and complex as that of the "Path of the Hero"<sup>17</sup> or the simplest of all, the one we have been taught in school since we were very young and which is followed from the most complex of books or convoluted from the series to the simplest children's chapter or fable, the one that says that a narrative must have a beginning, a middle and an end.

Following the principle of prudence, we recommend that you start gamifying small-format activities using the simplest structure and, when contrasting in real games that participants and facilitators feel that our proposals are well closed, complicate our tasks more and more. proposals. That said we go back to school and review the basic structure of any story, this time from the point of view of people responsible for gamification designs, keeping in mind the basic structure will help us take risks and play to break it later:

- **Beginning:** it is necessary to define the characters and their context in a pre-conflict situation, in order to give way to the appearance of the great conflict that the gamification experience must convey. This initial drawing can be direct (because of what the characters themselves say or do) or indirect (because of the props or what characters say about other characters). A good way to know if we are answering the questions that may arise between participants and facilitators is to ask ourselves if, once the presentations have been made, they will be able to answer the five

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<sup>17</sup>To learn more, visit: [https://en.wikipedia.org/wiki/Hero%27s\\_journey](https://en.wikipedia.org/wiki/Hero%27s_journey) and [https://en.wikipedia.org/wiki/The\\_Hero\\_with\\_a\\_Thousand\\_Faces](https://en.wikipedia.org/wiki/The_Hero_with_a_Thousand_Faces)

questions of journalism: What? Who? When? How? and Why?, and they can do it for each character, for the context and for the big problem.

The presentation should also serve to guide the participants and communicate the rules of the game. Again, we can convey the rules of gamification directly, for example by reading them before starting or we can do so in a more organic and indirect way, for example as part of the presentation of the first challenges which can serve as a tutorial, just as many video games do. Having clear rules should avoid conflict in the management of gamification and focus on solving the challenges proposed in the learning activity.

The boundary between the beginning and the middle will be the moment when the first small conflict will take place that will place us in the initial stage of the path that will have to lead us to the end.

- **Middle:** the middle will be formed by the string of small challenges that should allow us to solve the big challenge. This is where the whole plot of gamification will take place, with its plot twists, surprises, moments of calm, action, drama, comedy... When we design the knot we must keep in mind that our task is to capture attention and generate a certain level of stress at the same time that each challenge is solved. One of our goals when designing will be to balance the difficulty and emotions that each stage must generate and how each of them will be linked together. Excessive frustration can lead to abandonment, too easy a departure to boredom. We will also have to think about whether we will offer a single sequential path or whether there will be alternative paths that can be used to make it interesting to play more than once or to personalize the user experience.

It can help motivate you to have mechanisms to look back and look all the way forward or forward and focus on the goals you have yet to achieve. Each challenge will be an opportunity to gain items, experience, powers, resources... and an opportunity to lose them. This challenge will be an opportunity for learning and personal growth

- **End:** the end should take us back to the real world, in our first gamifications it is recommended that it be a very clear return, that it leaves no fringe pending. Therefore, at the end of the game, players should be able to give a clear answer to how they ended the emotional and plot arc of both the character they play and the other characters who have played a leading role in the gamification. Similarly, after participating in the game, it should be possible to say how the challenges ended and how they changed or affected the lives of the characters and their context. In addition, how we do gamification not only to play, but to affect the real lives of players and players at the end should cause players and facilitators to do some awareness-raising action in the degree to which gamification has helped to approach the desired learning objectives and whether it has had any impact on the actual context of the environment in which gamification has taken place. If we also want to do it with an open eye, we should ask ourselves about the expected changes and whether there have been changes that were not initially planned, either for better or for worse. All this information will be of interest to analyze and improve this same gamification or to have everything in mind when making a new proposal.

Now that we have made clear the basic structure of any story and defined its main goals, we invite you to revisit, even mentally, the stories you like best (be they in book format, film, video game, game table ...) and see if they fit with the elements of this basic structure. You will surely see how the most expert people have enriched and played with this structure that can appear broken or have managed to cover in a single sentence of the script or a specific camera shot several goals, showing elegance and mastery. In any case, we recommend that you start with simple proposals and gradually incorporate the ideas and solutions of those who know us best, but always check that, no matter what we do, we are responding to all the elements of the basic structure. Like any other art: you need to know the rules of gamification in depth before you break them.

The elements that shape the catalog of **missions** and allow **decision-making** are not enough to complete the plot arc that should give life to your proposal of gamified learning teaching activity, if you do not have them defined you will still need shape the elements that should serve to weave **alliances and enmities**, you will need to shape the elements that should serve to turn gamification into a **personal experience** and finally define the elements of assessment and

qualification that should **measure learning** with an eye on progress and the final results obtained.





# ■ Measure the Learning

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*Wanderer, it is your footprints  
winding down, and nothing more;  
wanderer, no roads lie waiting,  
roads you make as you explore.*

*Step by step your road is charted,  
and behind your turning head  
lies the path that you have trodden,  
not again for you to tread.  
<https://lyricstranslate.com>*

*Verses from Antonio Machado (1875–1939).*

Gamification allows us to draw journeys that must take us from a starting point to an end point. Any worthwhile journey transforms us in one way or another, and that transformation is directly proportional to the emotional impact that the experience has had on each of us. When we design gamifications of activities and learning, we seek to bring about transformations in people, whether in their knowledge, in their know-how, in their know-how or in their fit into the environment around them. Instead of leaving these transformative journeys in the hands of chance, we draw pre-established paths that should increase the chances of these transformations.

Any trip includes surprises and unforeseen events that make it unique even when we repeat the same route. Every trip needs a map that allows us to orient ourselves and know how far we have to go, how far we have to go, what alternative routes we have, what points of interest we can find. Just a moment! Does a travel map not include all the elements used to measure learning? Could it be that the map marked with an X where the treasure is and gives us clues on how to get there is the Holy Grail of assessment and grading?

## Measure learning



- The great reward:** in the search for the Holy Grail, Dr. Jones says in clear reference to his son Indiana Jones: *"We don't follow treasure maps and the "X" never marks the place. 70% of archeology is in the library."* Ironies of fate, well, more than the fate of the writers, a few minutes later a big 10 in the mosaic of an old library marks in Roman numerals the clue to continue the search and adventure. In real life we don't know, but in gamifications we need a big X that tells us where to go, that sets the big goal and the big rewards we will get when we get there.

The reward in a book, a movie or a gamification will be in the form of recognition, power, peace... in short: the acquisition of physical, emotional or knowledge resources. In the case of a gamification oriented towards teaching and learning activities, we are obliged to connect the great reward to real emotional and cognitive gains. In the game we will say that we have found a treasure full of jewels and gold, some participants in the gamification will even think that it is so, that they have won a plastic chest simulating coins, but we will know that the design was connected to real learning and that by participating they have had the opportunity to grow in a different way.

- The small rewards:** if we make a jump from the starting point to the end point we run out of travel, the intermediate time with everything that happens between the two points is the really important thing, much more than the big reward. The stages of the journey, the moments of action linked to the moments of transition are the natural space needed to practice, make mistakes, analyze, learn and re-practice that allow the maturation process of any learning. The design of a gamification must

record the stages, the challenges that must be overcome within each of them and the different connections between them. If we talk about training-oriented gamifications, we will also need to connect stages and challenges to the different learnings that we hope will come into play. Can you see it? Yes! We are describing a map or travel book. We can make maps with trips where the stages link with each other sequentially, without giving alternative paths, creating a direct route to the final goal, we can also make complex maps with more open proposals that include different paths (with quick shortcuts, quieter routes, optional explorations...) and that offer a much more experience tailored to each player. In both cases, simple maps or complex maps, as designers we have to make sure that everything makes sense and is aligned with the training objectives that we decided to pursue at the time we decided to make a gamification. These travel maps connected to learning become real learning landscapes.

- **The learning:** may the trees not prevent us from seeing the forest. A gamification is a space full of fireworks that keep us interested, motivated, excited, captivated... but when we talk about activities with teaching and learning objectives we can not be dazzled by the lights of colors and forget that the most important thing is to generate and open learning opportunities and not to any learning, it must be with the gaze set on the desired learning goals. In short, we will have to solve two big questions:
  - **What is done?** The answer is relatively easy: we will solve the challenges by following the rules and conditions of the game. For example, to open a seven-key treasure chest we will have to solve a couple of operations that are deduced from the parchment we got in the previous test, solve two puzzles and complete a cooperative game.
  - **What will you learn?** Surprisingly, the answer is relatively difficult even for some teachers. It is one thing to know what exercise is proposed, another to say that it is being done and another to become aware of ALL the direct and indirect learning that you can work around this same exercise. For example, to solve a mathematical operation that comes to us written in the enigma of a parchment it is necessary to understand the structure of a text, to work certain vocabulary, in addition it opens to us the opportunity not to say that it has been of making a subtraction or a sum and instead forcing the proper operation to be deduced

based on a real context. It is not the same to say that 3 plus 2 must be added as to say that the key is in the captain's chamber inside the seven-drawer closet and is inside what has as many skulls as the captain's parrot wings plus the number of limbs of Long John Silver. With this statement we have also managed to do a little research and count several times. In this way we have not only solved a problem (what is done? solving a problem), but we have also put into practice a series of skills, related to mathematics such as counting, adding, but also transversal. such as reading comprehension or information seeking. Here lies the whole secret and is where we do magic, with a single action we can practice a set of skills that not only benefit the activity we are doing but also have an impact on other areas of life and learning of players and players.

- **Back to the real world:** have you ever had a feeling of loneliness at the end of a book, movie, or series you've been hooked on for a season in your life? If gamification has been a success we may come to have that feeling. It's time to design a tidy return to the real world. Leaving aside that the plot of the game will already deal with the outcome of the story and perhaps give us a re-entry is time to consider whether we want players to stop for a moment and reflect on the game and the learnings they have practiced during it. In informal gamifications we may not want players to do this reflection, in gamification of more formal teaching and learning activities it is unavoidable. In any case, those who will always have to make this stop and reflect are the facilitators.

At this point it is necessary to make a clear difference between assessment and qualification, two processes that teachers have always done, but perhaps in a mixed way, without being fully aware of the differences between both of them:

- **Assessment** takes place continuously during training and its main goal is to provide meaningful support to players, trying to help in decision-making that facilitates learning and in the recovery of mistakes, for this reason it should be focused on the analysis of goal evidence and should look at the desired goals. Some call this process feedforward rather than feedback and allow for self-regulation and self-knowledge. During gamification the string of small challenges with their small rewards can serve us to generate

this goal evidence that should serve us to convey the feedforward, the very fact of overcoming a challenge or not is already an indicator that can become a badge, a mark of “challenge overcome/challenge not overcome” in the learning landscape...

If we want participants to focus on learning and not on grades we have to do it ourselves first, we need to ask our designs and our accompanying actions as facilitators if we are not the ones who we end up giving more importance to a note than to meaningful learning. It is for this reason that during the evaluation we must banish everything that refers to the notes and give a central importance to the formative evaluation (in which the facilitators make learning decisions) and formative. (in which players make learning decisions), progress, evolution, evidence generation and goal assessment element, feedforward... It is curious that some informal learning environments tend to become contaminated and to think that participation in a gamification with a grade of some kind needs to be qualified when it is precisely from these environments where formal contexts are learning that the most important thing to help players grow personally is a continuous and meaningful evaluation, very rather than qualifying with a note.

As always, gamification can help us to “disguise” these assessment instruments, we can make treasure maps, earn badges, obtain powers, make evolutions of these powers or badges, respond to a chewing gum machine to the perception we have. about learning<sup>18</sup>, etc.

- **Grading** at the wrong time can destroy meaningful learning as it causes us to look at the outcome and divert attention from progress. Falling into the trap of looking at the end of the path instead of being attentive to the path can make us focus on cheating the final note instead of learning it, or it is not a confession to be cheating that phrase of “I’m taking an exam now, because if they don’t then they’ll get a bad grade”? Clearly, we want to qualify now because we are aware that meaningless learning is fading quickly, and if that is the reason why students tend to study at the last minute? What if it’s not a matter of laziness? What if it’s a matter of

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<sup>18</sup> @dibupntes: La màquina de xiclets (The bubble gum machine):  
<https://twitter.com/dibupntes/status/1055531425825460225> (In Spanish)

efficiency? What if we change the assessment tools that allow and promote this approach for others that give importance and validate meaningful learning? This does not mean that we do not have to put a mark that accredits the levels achieved with respect to the learning objectives, this does not mean that it is necessary to do it only where and when it is necessary.

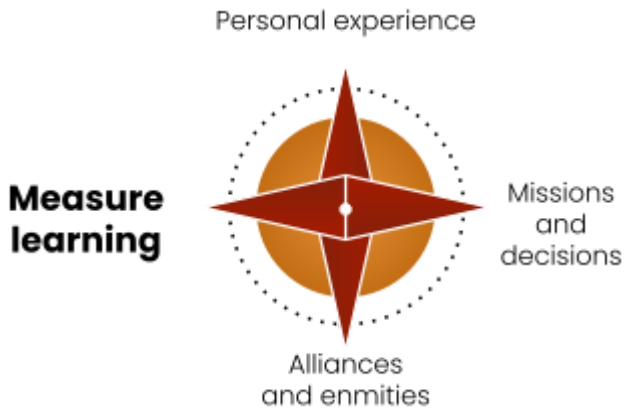
If you're gamifying in an informal setting you may not need to issue a rating, congratulations! It is a perfect environment to enjoy meaningful assessment with complete freedom, in formal settings it will be necessary to qualify. We must consider whether it may be necessary to delay the moment of accreditation as much as possible (especially in contexts of gamification), in which case we should start by communicating that there will be an accreditation process at the end of the road, and focus immediately on the process, support and meaningful assessment to open the accreditation process at the last minute, and this if the evidence generated along the way are no longer more than enough to accredit the levels of learning, which ends up happening a lot more times than we think experienced trainers of formal learning environments.

- **The tools** we can use for qualification and support in progress are the accumulation of evidence and evaluations in the progress of the game, if we had to choose only a couple would be:
  - **Learning landscapes** that allow you to see the stages, the interconnections between them and the rewards that are being acquired.
  - **Rubrics**, either of single entry (which are answered with a *yes* or a *no*) or with levels of achievement (which are answered by valuing levels that in a generic way can be "not knowing", "knowing", "knowing how to do", "know how to connect knowledge and knowing how to do"). In addition, they can be used to activate self-dynamics and co-evaluation.
  
- In both cases, the learning landscape and the rubrics can be useful for both assessment and grading, but beware! If during the game it gives the impression that it is necessary to complete the path of

gamification/learning to obtain this note we run the risk of falling into original sin and blocking from thinking that the goal of the game is the note when it is just the other way around, the mark will be the natural achievement of a series of good learning actions carried out during participation in gamification.

Once again, gamification can help us to "disguise" these assessment tools, even in the case of having to take a final proficiency test we can do the same as in video games and become the final "boss" of the game, on the last screen. If this is the case, the gamification itself can be used to face this final battle, for example including final level "bosses" who are preparing players and players for the tessitura who will be in battle with the final "boss".

The elements that allow us to **measure learning** are nothing without the rest of gamification, so we need to shape the catalog of **missions** that allow us to activate **decision-making** within your proposal of gamified learning teaching activity. Moreover, we need to define the network of **alliances and enmities** and finally we will have to shape the elements that must serve to turn gamification into a **personal experience**.



# The Thinking Corner

## The Gamification Compass

### Description:

This organizer will help you discover what alliances you can establish with the context close to your learning environment. Becoming aware of what you need, who can help you and what you can offer will make it easier for you to establish strategic connections between your learning environment and the entities around you.







### Printable version:

We recommend working on a physical version of the graphic organiser by pasting sticky notes on it (or welcoming erasures and corrections), so we provide a link to a printable version.



### The Graphic Organiser:

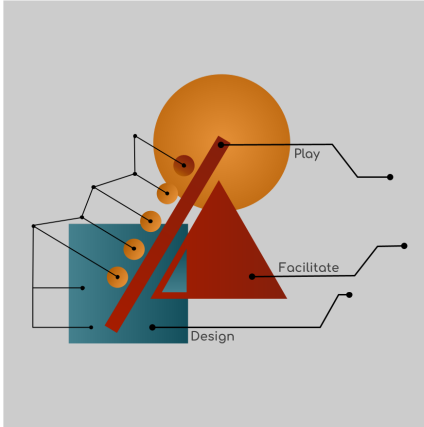
[click here](#)

EMOTIONAL ARC Choose the emotional arc that will serve as the skeleton of the story		EMOTIONAL LINK link between the real world and that of history		SETTING Scene where the story takes place		SOURCES OF INSPIRATION References that inspire you to create history	
	Continuous increase	IDEA 1		WHERE		INSPIRATION	
	Continuous decrease					SOURCE	
	Decrease and increase	IDEA 2		WHEN		INSPIRATION	
	Increase and decrease					SOURCE	
	Increase, decrease and big increase	IDEA 3		CONTEXT		INSPIRATION	
	Decrease, increase and big decrease					SOURCE	



# Let's Play!

Celebrating the Event



## What will we do?

Discover the life cycle of a gamification, from the appearance of the need to the execution.

## What will we learn?

The different responsibilities that must be assumed by the actors and actresses involved according to the time of gamification.

## Why...?

To be able to read the part of the guide where the **goals** to be achieved and the **responsibilities** of the role you have to play in gamification are presented. Will it be up to you to enjoy the game while you learn? Or maybe you need to accompany and guide the players? Or are you the designer and creator of the **gamified learning experience**?

## To play:

to exercise or employ oneself in diversion, amusement, or recreation.<sup>19</sup>

<sup>19</sup> <https://www.dictionary.com/browse/play>

# Finding the Treasure

## of Learning

There is a Chinese proverb that says *“learning is a treasure that will be followed by those who possess it wherever they go.”* But like all treasures, especially the most valuable ones, the path to finding them is not easy. Still, gamification helps us get there, and it also makes it more fun.

Gamification cannot be summed up in playing, of course not. Gamification, although it takes advantage of the game, must be designed, thought through carefully so that it serves to achieve the goals we want to achieve, find the most precious treasure of all that we seek with it: learning.



In this treasure hunt different roles participate, we already know that. However, unlike adventure stories, not everyone takes part in the same way.

In this story, we have someone who designs the path to the treasure, who leads the treasure hunt, and who will walk through the jungle or sail the seven seas in search of, and hopefully achieving, learning. And unlike adventure stories, the treasure can be found by as many people as they begin their search.

The roles involved participate and intervene in a heterogeneous way. Sometimes they coincide in time, others do not, and whenever they intervene, they do so with different responsibilities.

We have again a typical element of adventure stories, the compass, of gamification in this case. But there is another difference. In this case, the compass is an essential element for, fundamentally, the person who designs and, secondly, for those who have the responsibility to invigorate the experience. Its use and participation in each role is different over time:

- **Before playing:**  
Design and know how to facilitate.
- **During the game:**  
Facilitate and participate.
- **After the game:**  
Measure goal achievement.

## ● Before Playing

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If you have decided that you need gamification, the process has already begun. Do you have your compass on hand? It is the first step. Next you need to know if you will use a gamification already created or if you will design it.

If you are the one who designs the experience, having the help of the compass will help you. From here, things get trickier, and this is where the true meaning of life lies. In what environment will it take place? Answering these two questions will give us the main lines of the project, without forgetting the four axes of the compass.

We design by focusing our decisions on the end user, it is essential to know in detail the target audience of the experience, as if we were marketing experts when analyzing the target audience to which they will be addressed. These experts analyze social, demographic, economic and even psychographic characteristics. To design a gamification, we may not need to know the acquisition level of the target person, or whether it is a person with or without a partner. We are much more interested in characteristics such as age, the environment in which the person lives, interests and, above all, the most behavioral characteristics.

We must also be clear about the environment in which we will apply this gamification. Are we designing for a group of young hikers who want to discover a natural environment? Or are we doing it for a group of boys and girls who come to class to prepare for college? Will gamification take place in a physical or virtual environment? We can design for any scenario, but we must take into account the characteristics of the learning environment in order to establish the developmental characteristics of the experience.

We also need to know what we want to achieve, we need to define goals. And how do we ensure that these goals are met? Clearly, we need to define what evidence will be generated and when we should collect it, depending on whether we want to measure learning, participation, when it will be done, and so on.

The design cannot forget at any time the concretion of the items that mark the compass to us, giving answer to different questions that will help us to define the

gamificación to execute:

- **Personal experience:** what will be the theme of the whole experience? We will have to create an environment, a story, characters that allow the personal growth of each and every one of the participants.
- **Alliances and enmities:** it is also important to define the relationships that can occur throughout gamification. Will they participate as a team? Individually? Will they be able to collaborate or compete? In the case of establishing teams, what roles and responsibilities will the components of each team have to assume? Will there be powers, rewards?
- **Missions and decision-making:** what things will need to be resolved by the participants throughout the experience? What challenges will they face? Can they decide the order of resolution? Will they have different difficulty levels?
- **Measuring progress and learning:** be it a formal or an informal context, the spirit of all gamification demands that there be recognition of the progress of the participants. In more informal experiences, these can be badges, mentions, small prizes, and so on. More formal contexts can be used in the same way as these elements, but we will need to measure the learning we aimed for with experience. In any case, we will determine in the design which items to measure, how, when and how often to do so. We will also have to design the set of awards that will be given to the participants, the moments when they will be highlighted, etc.

While the main weight of the pre-game phase falls on the person designing, the person responsible for energizing the experience should also be activated at this time.

Sometimes the person responsible for designing the gamification is at the same time the person responsible for energizing it. But this does not always happen. We have to design with that in mind. It will be necessary to well define the process of execution of the gamification, taking care to procure all the necessary information so that the facilitator understands the step by step of the experience, he or she has clear the aims that will work and the evidence that will have to be collected . From the design, we will have to provide the necessary tools for execution.

Besides, the person who facilitates, before starting the experience with the participants, will have to know the gamification deeply, from the goals to the rules of action at any time. It is possible that the design allows some flexibility of action or even leaves it in the hands of those who will facilitate some decisions that allow you to adjust the experience to a given situation.

From the design, we will put in the hands of the facilitators resources as graphic organizers, which can have different objectives: adjust the design; collect evidence at specific times; accompany the facilitation of the experience; etc. There will be experiences where we will ask the person responsible for the facilitation to prepare a certain material and at other times we will advise the use or provide digital tools. This set of tools will depend on the design, which is why it is so necessary to study the final recipient and the environment in which the gamification will be performed.

To complete the design of a gamification experience, it is advisable to follow the following roadmap:

- |     |   |
|-----|---|
| 1.  | Analiza końcowych odbiorców grywalizacji.                         |
| 2.  | Define the goals to be achieved throughout the experience         |
| 3.  | Establish the expected duration of gamification.                  |
| 4.  | Create the universe where the experience will take place.         |
| 5.  | Determine where gamification will occur.                          |
| 6.  | Define the possible relationships and roles between participants. |
| 7.  | Create missions and challenges to overcome through experience.    |
| 8.  | Define the necessary resources and tools.                         |
| 9.  | Establish rules for participation.                                |
| 10. | Define the measurement points of progress and their recognition.  |

## ▲ During the Game

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It's time to start the experience with the players. Throughout this phase, the role responsible for design takes a back seat. It is time for the role of facilitator. Although if both roles fall on the same person, it is possible that during the execution, if improvements are detected, the role of designer will be activated to adjust the design.

We will start by informing the participants of everything that is considered appropriate. Many times, this information will be determined by the design itself. Others will find different options for choosing the information to provide. In any case, the final recipients will need to understand what to do, how, when...

Participants must pass the missions/tests of gamification, interact with the different roles and take advantage of possible prizes or rewards, always respecting the rules set.

As facilitators, we need to be clear about the different moments that mark the design of the experience, giving way to the different missions or delivering rewards when it touches, and so on. It will be the design that marks our actions.

It is possible that we find more open gamifications where from the dynamization it is possible to make transcendental decisions. Perhaps, other gamifications require a special setting or props. The people who facilitate will have to contemplate all these alternatives and put them in action in the opportune moment so that the design works fulfilling with the foreseen aims.

To complete the dynamization of a gamification experience, it is advisable to follow the following roadmap:

1. Know the characteristics of the gamification to be carried out.
2. Facilitate the setting present in the design.

3. Share the rules of operation with the participants.
4. Adjust gamification to the real time and situation.
5. Organize roles and/or teams according to the instructions.
6. Give way to the different missions when appropriate.
7. Ensure the rules of gamification.
8. Be aware of points for improving the experience.
9. Keep or generate evidence of participants' progress.
10. Measure progress when established.

## ■ After the Game

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We may be mistaken in thinking that by the time the final recipients (the players) complete the gamification, it is over. And nothing could be further from reality. We still have a very important part of the experience. This closing moment will also be defined from the design and will also be affected by the characteristics that define the final recipients and the environment in which it takes place. It is time to review at different levels: have the defined objectives been achieved? Did the experiment run as expected? Did you like it?

This final review should serve us in all roles. The designer will have the opportunity to apply the improvements to a new version of gamification. The person responsible for the revitalization will be able to assess whether it has helped them to achieve what they expected with their final audience and they will know if they have enjoyed, if they have learned, etc.

The design should also include the design of which we will evaluate the experience. If gamification is more formal, it will surely seek to achieve some goals set by the administration. If it's more informal, maybe an assessment of how it's gone is enough. In any case, the recommendation is to ask at least all the people involved which aspects they liked and which they did not. From here, we can ask for suggestions, suggestions, etc. And, once the review is closed, it is necessary to reflect on what improvements to include in the next implementation. Not all improvements are always feasible, sometimes a role does not have the cross-sectional look of the rest.

Once the gamification is finished, it is advisable to follow this roadmap:

1. Encourage the final review of the participants.
2. Complete the final revision of the facilitator.
3. Assess the improvement proposals and incorporate the ones considered to be incorporated.



# Conclusion

## Every End is a Beginning

Gamification is one of the many active methodologies ([www.metodologiasactivas.es](http://www.metodologiasactivas.es)) that we can find today in many of the classrooms of our schools. But unlike many others, it transcends walls and manifests itself in informal learning environments. In fact, it is very possible that the arrival of this methodology in schools will be the gateway to more informal learning.

Precisely this more informal origin complicates many professionals in the world of education and leads them to discredit the methodology without even researching, experimenting, etc. In fact, these critiques based on origin, with no more evidence than preconceived ideas, could evidence a classism and ignorance not entirely recommended for teachers. Rarely do these samples of rejection of gamification go beyond the second or third level of Graham's Hierarchy of Disagreement<sup>20</sup>.

But congratulations. If you've gotten this far and had doubts about gamification... it means you're researching. If this is your first contact with gamification, we are convinced that you still have a lot more to do, whether you like this guide or not. Here you will find some arguments and tips to continue your search towards the decision of whether or not to use gamification. And being reasoned, she will be right, whatever you do.

We regret to say that this methodology is not miraculous. But in fact, what is it? Is there a universal formula that facilitates learning in the same way for everyone? If it exists, we haven't found it yet. Now, we are fully convinced that if we have more tools available, more and better answers we can give in any situation. Gamification is one of those tools that can be wonderful, allowing you to blur the divisions between formal and informal environments. And, in addition, it facilitates learning in many cases. Miguel Ángel Ariza Pérez<sup>21</sup> explains that, once, a student of those complicated who was working a lot on an experience with active methodology, when asked what he thought of the learning experience he had lived, he replied: "Perfect, teacher. To

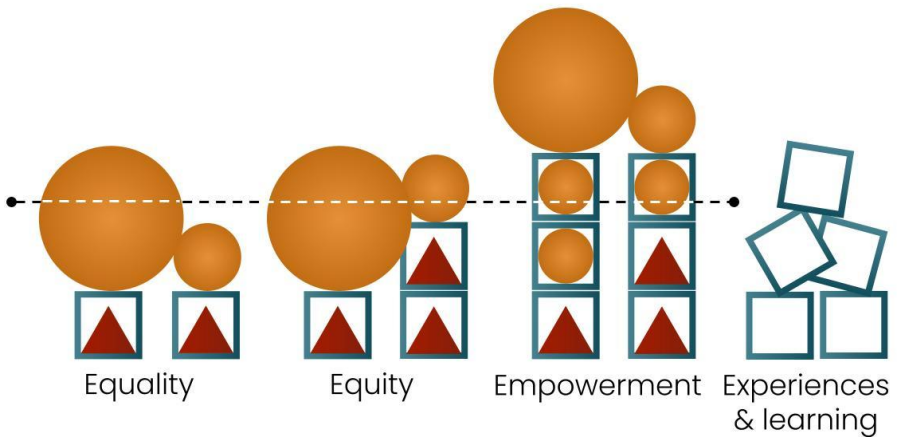
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<sup>20</sup> Graham's Hierarchy of Disagreement: [www.paulgraham.com/disagree.html](http://www.paulgraham.com/disagree.html)

<sup>21</sup> [www.miguelarizaperez.wordpress.com](http://www.miguelarizaperez.wordpress.com) (In Spanish)

me, as long as we don't give class..." Well, gamification can achieve a similar effect: learning while enjoying, while having the feeling that we are playing. And it shouldn't bother us to look for the best way to reach young people, to get them to learn and enjoy.

Gamification, like many other active methodologies, helps to reach each young person in a more personalized way. Sometimes, well, in fact, many times, those in charge of education are part of formal or informal environments, we have in mind the false need to administer justice, to help everyone equally. But can we reflect for a few seconds on whether offering the same thing to everyone is fair? We are clear. NO. To be fair is to offer each young person what they need most to learn, adapting to the situation and context in which we find ourselves.



All those of us who are dedicated to training and leisure, and especially those who do so with young people, must be clear that equity must condition our actions. Offer what is needed at the right time. Be attentive, adjust, redirect. This adaptive and flexible attitude, with equity as a condition, helps to reach the minimum, not only those who have the most difficulties, but also the ones who help to break the roof of

those who demonstrate most easily. In short, the use of strategies such as gamification helps to empower each and every one of the participants. Learning experiences, whether in a school or in a mountain scout group, are the key to achieving the much-coveted social justice.

After a few months synthesizing pages and pages of reading, hours of watching videos, interviews and documentaries, attending webinars, talks, conferences and trainings, visiting schools in different parts of the world and, above all, after years experiencing different ways of offering learning to young people, we close this guide that aimed to make it easier to land the design of gamification experiences for those interested in the methodology.

Perhaps, once we get to the end, we realize that more than helping the landing, it helps to discover that gamification is just beginning for you. That you have to read, to observe, to learn. That with all this, it will be up to you to plan, make, evaluate and adjust improvements to start over. Oh, and you will do all this by making mistakes. Flee from magic formulas! Errors are welcome. Think about it, study because it didn't work the first time, and try again. Only when you have completed the Deming cycle a few times will you be in a position to be able to say "This methodology is awful" (it sounds like an ugly term, right? Because, unfortunately, we have come to hear opinions on those terms). If at any time you come to this feeling, we would be very sorry if your experience led you to this conclusion and if you did not value continuing to go beyond this point of view. Something that really doesn't work for you, with the skills and limitations, in your context, at that time and with those resources... can it be liquidated by expressing this so ugly? Maybe it's fairer to say something like "to me, this methodology hasn't worked... so far".

And you know what they say in Sesame Street...<sup>22</sup> "When something doesn't work, don't give up because you've learned! Keep trying and you will reach your goal because it is THE POWER OF YET!"<sup>23</sup>

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<sup>22</sup> The power of yet, version 1: <https://www.youtube.com/watch?v=XLeUvZvuvAs>

<sup>23</sup> The power of yet, version 2: <https://www.youtube.com/watch?v=J-swZakN2lc>

# Postscript

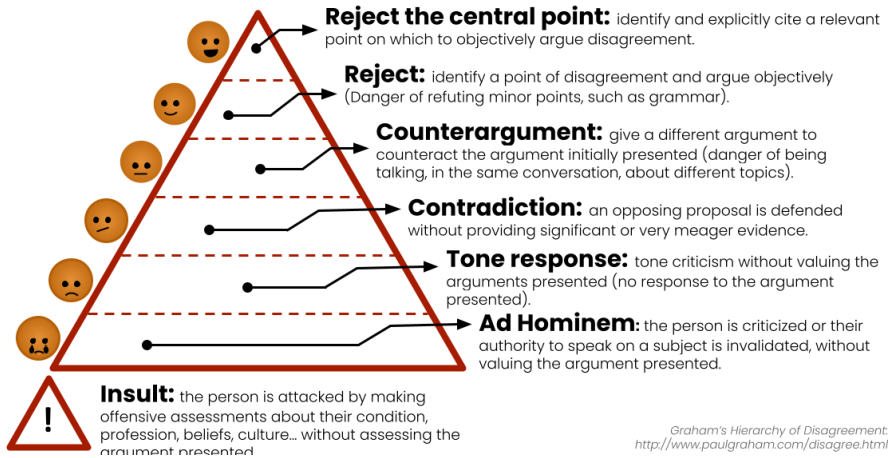
## “This Methodology is Awful”

Let us dedicate a few words to you in a personal capacity, such as Fran Arrébola (@F\_Arrebola) and Antonio Domingo (@AntonioEduca), lead researchers in this guide, but above all teachers who are able to offer learning contexts where it is possible to acquire and practice the theoretical knowledge and personal skills that should allow us to improve individually and as a group.

Personal experience tells us that when you try to do different things, you look at yourself, some of them will be temporary but others will arouse real interest. The emotions behind this interest will range from admiration to fear aversion to curiosity, fear, healthy envy... and beyond. Positive emotions will not be a problem, they will end up adding up in one way or another and they will turn individual projects into shared projects. Negative emotions are dangerous because they can be combined with irrational responses that can distract you from your goal of improving learning while you get lost in the irrationality of others. That's why in this chapter we want to afford to give you three tips you haven't asked us for (which they say should never be done):

1. **Open the doors** to anyone who approaches with positive emotions, share generously and you will see how these emotions never add up to the same as the sum of the parts separately, they will always add up more and recharge you with energy that will allow you to go much further and happier.
2. **Listen** to those who approach you with negative emotions and **explain yourself if they want to listen to you**. Try to move on to the rational levels of the argument (if you have clearly defined the goals and become aware of the rationale for your actions and your teams it will be relatively easy).
3. **Keep hoping** to reach meeting points that allow for mutual understanding and respect. Remember that communication depends on the sender and receiver and if one of the two ends begins to move through the lower half of the argument pyramid, it is better to press the "pause button" and leave it, waiting for moments more conducive.

Surely the sentences “This methodology is awful” seemed rude to you, but believe us, as designers of “alternative” learning experiences, we’ve lived first-hand and seen it suffer from other much worse comments and attitudes these, unfortunately, sometimes this toxicity has managed to bring down very beautiful projects that were achieving important goals for people and their contexts. As researchers in this guide, as designers of learning experiences, but simply as Fran and Antonio, we think it would not be acceptable to hide this unpleasant kiss from our work.



Once we have become aware of the negative side of being “doers and doers of weird things” we are already protected and we can protect our teams and their projects. Now we can cling to the positive side that is brutal and gives meaning to everything, and from this conviction we can begin to make alliances with those who come loaded with proposals and positive energy, we can break physical and mental barriers of learning contexts, letting in trusted people. In this way, you will gradually weave a network of people who are enthusiastic about learning, realizing projects that you and your teams will be able to reach far beyond what you ever allowed yourself to dream.

Let's keep playing.