

# MOTIVATION THROUGH GAMIFICATION

A WHITEPAPER ON  
GAMIFICATION  
SEPP0.IO



# 01

*Success, today, and tomorrow, will require 21st century skills such as creativity, collaboration, executive functioning, and digital literacy (1).*

No longer will simple rote learning, memorization of facts, or training for traditional manufacturing, service, or agricultural jobs be adequate to prepare for life and work in the future. (2)

This has also significantly changed the needs and means of education. The line between formal and informal learning environments has blurred, and it has become quite clear that informal world of video games and digitalisation are part of our current learning culture both in schools as well as in corporations. Using what is familiar and interesting to learners, like using games and gamification, can help bring effective learning tools and ways to 21st century education and work.

This whitepaper helps to understand why gamification and games work in learning context. It provides a basic understanding on why games and gamification can be very effective ways to increase learner motivation and results. It also defines the aspects of good learning games.

# DEFINING KEY TERMS

**Gamification** means applying game-mechanics to non-game environments to motivate activity and affect behaviour. The goal is to get someone to do something by engaging them in the process.

**Game mechanics** are the set of rules which govern how a game works. They are various in nature, but one thing that combines them all is that they always have a role in a game. They can make a game challenging or fun or intriguing, or whatever the goal for the game is. Some of the mechanics are considered as game mechanics only when they are put into the game context, like movement or collaboration. Some others are universally attached to games, like points and scoreboard.

Examples of game mechanics are:

- Points
- Badges
- Leaderboard
- Levels
- Dice
- Randomizers
- Race
- Movement
- Puzzle
- Collaborations.

# 03

**Game dynamics** are often considered the same thing as game mechanics, but they could be considered to have a more motivational origin. Game dynamics appeal to our innate needs that game designers try to awake with different game mechanics. Game dynamics can include:

- Competition
- Achievement
- Self-expression
- Altruism

**Game mechanics** and game dynamics can be applied to any environment and anybody. Their goal is to awake interest and motivation to act. Gamification is used very widely in different environments from sales to healthcare and from leisure to learning.

**Flow state**, defined by Csíkszentmihályi in 2009, means a state of mind, where the actor is highly motivated and highly focused on achieving the current goal, so much so that they can exclude external factors from the process.

**Intrinsic motivation** is an internal want to do something because of the task itself without any outside rewards. Intrinsic motivation is considered as an essential part of self determination theory.

# 04

## WHY ARE GAMES EFFECTIVE?

Gamification and games aim to make learning fun. In best cases, games can awake learner interest in the topics and increase learning motivation for the learners, even improve learning results.(3 )

Use of games in teaching and learning has been studied for over 30 years. The earlier learning games studied were quizzes or flashcards that were made digital and interactive (4). Quizz tools are still very popularly used to activate learners. In quizzes, the basic idea is that there's a question with predefined answer options. The task of the players is to pick the correct answer option from the alternatives. There can be additional game mechanics added to the questions to make them more engaging for the players.

The problem that researchers have found in these kind of games is that they do not awake intrinsic motivation in learners. More recent research indicates that good learning games need to be fun in and of themselves besides implementing their educational goals. (5).

Games can both motivate players and broaden their interests (6). Games can also help make see connections between abstract concepts and real life environment. This is one important aspect that helps learners build meanings in the subjects they are studying. Most of the studies done on learningl games are conducted with interactive games, but the findings can be applied to all kinds of learning games.

## IN BRIEF

- Games motivate players
- Games can broaden the interest of players
- Games help connecting abstract concepts and real life environments

# WHY DO GAMES MOTIVATE?



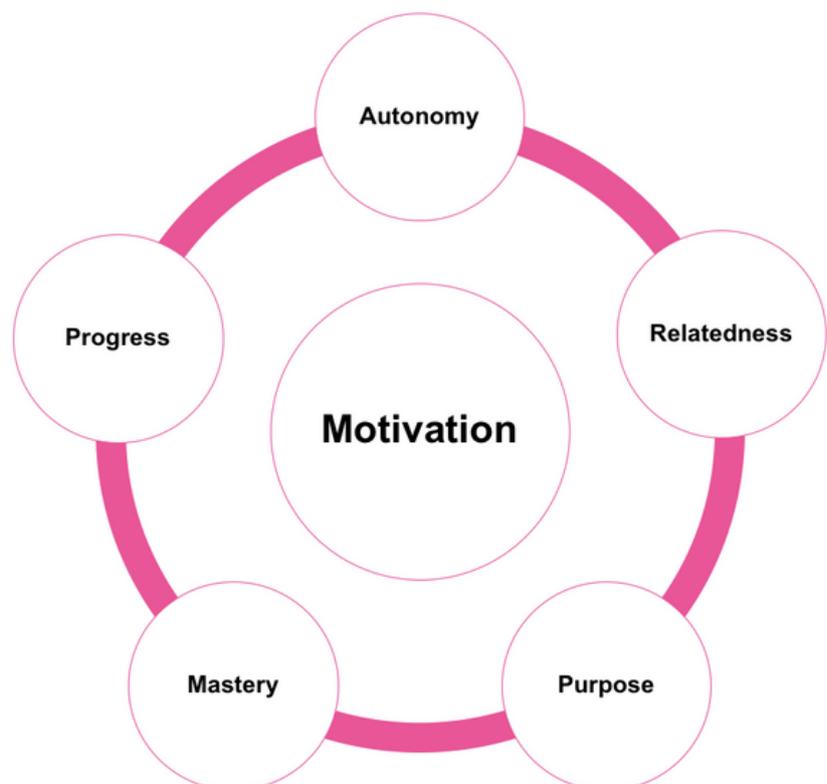
Games use a lot of different mechanics and dynamics to activate. When you are actively involved in something, it becomes more meaningful. Players research, explore, create and complete quests while making their own decisions along the way in order to reach set goals. Being able to affect one's actions and the game's outcomes through the actions also makes playing more meaningful. Many of the game mechanics are actually designed to feed the psychological needs that are recognized as important for motivation. The goal for the game designer is to get the players hooked, or motivated enough to make them actively reach for the set goals by completing tasks according to the game's rules and purpose.

In the best case, the players get to a flow state, where they are completely absorbed in the game play and repeatedly want to get back to the game when they stop playing. This flow state is also the goal for learning games, although instead of getting the players hooked in the game itself, the ultimate goal is to get the players hooked in the subjects and learning the topic in question.

## WHY DO GAMES MOTIVATE?

- Immediate feedback contributing to a balance between skill and challenge;
- Merged action and awareness, completely occupying player's' attention;
- Deep, sustained concentration;
- Control of the situation, and the freedom to generate possibilities; and
- Loss of self-consciousness.

Games use several different methods that are effective in awaking intrinsic motivation.ets you transition smoothly to the other parts of your report.



## GAMES PROVIDE AUTONOMY

Games usually allow the players different possibilities to affect their game play and improve along the way. Being able to make different choices and decisions make the game more meaningful and give a sense of ownership for the players. This sense of ownership is an important aspect of intrinsic motivation. Motivation theorists call it autonomy (8). Feeling that you are in charge and can affect the outcomes with your own actions and decisions is important also for learning. It's easy to feel empowered inside games. In formal learning contexts this feeling of empowerment relies mainly on the trainer's skills.

## DIFFERENT WAYS TO FEEL COMPETENCY

Like in life, also in games practice usually makes all the difference. But in games the only way forward to mastery is often by experimenting and learning by trial and error. Instead of being taught the right answer, the players eventually learn themselves by repeated actions. Failing is allowed, even recommended to finetune the process. This makes games a safe environment to learn. Putting in the effort, seeing the eventuell progress, and succeeding becomes important when you get absorbed in the process. When you succeed in something that you've put effort in, mastering that skill and getting recognition for it from the game or community adds to the feeling of meaningfulness. Games can also provide possibilities to show off completely new skills and sides that might not appear in a more formal context. This is one of the reasons why games work especially well for people who have difficulties performing well.

Progress and mastery are easily made visible with different outside game mechanics, like feedback, points, badges, levels and leaderboards. In learning games, along with inbuilt game mechanics, it's the role of the trainer to act as a guide or coach that helps along the way, noticing the skills and progress and giving important feedback to the players.

Feeling of competency requires correct challenge level. If the game is too easy, the player gets bored and even though they might feel that they master the game or the skills needed, they don't get the sense of progression, which makes it possible to reach the flow state.

If in turn the game is too difficult, the feeling of competency is also difficult to reach.

Well-designed games promote flow by continually adjusting their difficulty level to meet the player's present state of understanding (9). Trainers can also have an essentially important role in recognizing suitable challenge levels for their students or adjusting the game questions to suit the players skill levels.

## GAMES ARE SOCIAL

Besides autonomy and competence self determination theory presses the importance of the need to relate. We all have a need to belong to something, to be a part of something bigger. This need is also recognized as one key element of intrinsic motivation (10). Most games also fulfill this need. Many games make you feel as part of a community, whether it's a team, tribe, or something bigger. Connecting one's actions to something bigger makes the actions feel more significant and meaningful. Sharing actions also adds to the feeling.

## IN BRIEF

Games use game mechanics and dynamics to engage players. Game mechanics act as outside motivators.

Outside motivators can make a game enticing, but the goal is to awake intrinsic motivation. When players are intrinsically motivated in the game, they can reach the flow state and they also are more likely to learn.

Game mechanics feed different psychological needs that make the players interested and motivated. Three of the main needs needed for intrinsic motivation are relatedness, autonomy and competence..

## REQUIREMENTS FOR A GOOD LEARNING GAME

In the world of tens of thousands of games and gamification tools for both commercial and educational purposes, it's good to keep in mind that games as such do not solve learning problems or do the teaching for trainers. Games can solve some of the motivational problems that learners face, but it requires some understanding of what makes games effective to be able to use them effectively for educational purposes.

There are some elements that have been recognized as important in good learning games (11). The following list requires good guidelines when using games for learning..

# 11



- 1** Good learning games should provide a high intensity of interaction and feedback. It's important to provide different ways to interact and affect the game. Positive and constructive feedback guides the learners forward and helps them feel competent and related.
- 2** Good learning games should have specific goals and established procedures. Goals and rules set the expectations for the learners. Game goals can be made visual which makes learning goals also understandable.
- 3** Good learning games should motivate, challenge and provide a sense of direct engagement. Games should fulfill all the psychological needs determined above, but they should also make the player enjoy the process.
- 4** Good learning games should be fun. There is no one right way to do this since fun is a subjective matter, and depends a lot on the interests of learners. However, by providing enough points for interaction, positive feedback, chances to affect and possibility for creativeness, the playing process becomes engaging. With motivation and engagement comes the feeling of fun and eventually even feeling of flow.
- 5** One extra element that is not required but does affect the feel of the game is movement. Adding physical movement to a game adds a different type of activation level, and can help players concentrate better. Physical movement can also make the game feel more exciting.

Physical activity is a really effective feature when it's put into learning context. It has been shown that adding physical movement to a lesson helps improve learning outcomes for especially underachieving students (12). Even short breaks of movement seem to have favorable associations with indicators of cognitive functioning, academic behaviors, and/or academic achievement (13, 14).

# 12

## IN BRIEF

### Prescription for a good learning game:

- There's feedback. The best kind of feedback is on time, positive minded yet constructive and on topic.
- High level of interactivity. There are different ways to add interactivity from game answers to how the game is played.
- Social aspect. Playing with others makes the process more fun. Playing in teams teaches teamworking skills, like negotiation skills and problem solving skills.
- Different ways to affect the outcome. Good educational games provide the players a lot of chances to make decisions.
- Right challenge level. The skill level of players should be taken into consideration and the game should evolve along with the skills of the players.
- Clear and visual goals. When goals are made clear for the learners, it's easier to understand progress. Instant gratification in the form of feedback and visual prizes makes reaching the goals more appealing.
- Fun. Playing is fun. A dull game doesn't awake interest of the learners.
- Activate in different levels. A good game finds different ways to activate, mental activation is only one possibility. A game can also activate physically and socially.

## WHERE TO START?

You can start using games for your company's educational needs by hiring a solution for a ready made game designed for your needs. But it's also very simple to create own learning games. The benefit here is that you can use your real existing materials, and gamify real real life subjects. This is where gamification tools come in handy.

Seppo is a Finnish, globally awarded gamification platform which enables turning any educational content into highly interactive games.

More information at [seppo.io/business/](https://seppo.io/business/)

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