

Gamification for Learning about the SDGs

1. Introduction

Educating future generations about the Sustainable Development Goals (SDGs) is essential for creating a fairer, greener, and more inclusive world. However, engaging students with complex global issues such as climate change, poverty, or responsible consumption can be challenging, especially when traditional methods fail to connect with their interests and realities.

This is where gamification comes in. By applying game-based elements like missions, points, rewards or progress tracking to the learning process, gamification turns passive lessons into interactive, motivating experiences. Far from being just entertainment, it has become a valuable pedagogical strategy to make sustainability education more meaningful, participatory, and transformative.

2. Understanding Gamification in Education

Building on the basic concept, gamification in education uses features such as scoring systems, challenges, rewards, and real-time feedback to actively involve students in learning. These elements encourage learners to set goals, collaborate with peers, and track their progress, which are crucial components when addressing complex and multidisciplinary themes like the SDGs.

Effective gamification designs include personal goals, teamwork, and reflective thinking, turning learning into a dynamic process that connects knowledge with action.

3. Real examples: What Studies Show About Gamification and the SDGs

A Research-Based Perspective

A 2024 study published in *Computers in Human Behavior* reviewed over 300 examples of gamification applied to sustainability education. The author found that gamified activities help students:

- Understand complex topics like climate change or sustainability
- Stay motivated, thanks to rewards from challenges
- Adopt sustainable behaviours, by making eco-friendly actions part of the game

The study also shows that the most effective games are those that link directly to SDGs, offer student choice, and encourage collaboration. At the end, gamification is not just fun, it helps learners turn knowledge into real-world impact.

The Isla Tierra Educational Experience

At Santa María del Pilar School in Zaragoza, Spain, a gamified initiative called "Isla Tierra" engaged 5th-grade students in learning about the Sustainable Development Goals through a very interesting experience. Students took on the role of "agents" responsible for protecting a fictional island while tackling real-world issues like climate change, hunger, and biodiversity loss. The project blended game mechanics, such as missions, avatars, and roleplay, with cross-curricular content in subjects like Math, Language, and English. The result was a notable increase in student motivation, collaboration, and understanding of sustainability challenges.

Early Learning: Foundations in Sustainability

An educational experience documented by the University of Salamanca applied gamified strategies in early childhood classrooms. Through storytelling, group games, and missions, young students explored SDG-related themes in playful and accessible ways.

The results included:

- More interest in sustainability topics
- Better understanding of abstract ideas like fairness and environmental care
- Development of empathy and teamwork

Even at an early age, gamification helps making global challenges relatable.

4. Gamification application in VET

In vocational education and training (VET), gamification offers a powerful way to bridge technical learning with global sustainability goals. It transforms theoretical content into practical, challenge-based learning, helping students see how their future professions can contribute to building a better world.



Gamified approaches in VET can:

- Simulate real-world scenarios, such as managing a sustainable supply chain or running an eco-friendly tourism business. These simulations allow learners to experiment with decision-making in realistic professional contexts.
- Build key competencies, such as teamwork, problem-solving, digital literacy, and ethical reasoning, all of which are essential and align with SDG values.
- Personalize learning paths, allowing students to choose roles, specializations, or missions based on their vocational interests (e.g., construction, health care, hospitality, logistics). This increases motivation and relevance.
- Foster agency and responsibility, by showing students that their career choices and workplace behaviors can have social and environmental impact.

For example, a game-based module in a renewable energy VET program might challenge students to manage an energy grid, balancing costs, environmental impact, and community needs. By “playing” with consequences, learners gain a deeper understanding of sustainability trade-offs and feel more prepared to make real-life decisions.

By integrating gamification into VET curricula, educators can promote not only technical excellence but also global citizenship, ensuring that graduates are ready for both the job market and the challenges of the 21st century.

5. References

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