ESAI Grassroots Workshop

Choco Chase: Exploring Sustainability through Play

Overview

The *Choco Chase: Exploring Sustainability Through Play* workshop, delivered at Maynooth University, introduced participants to sustainability concepts through an interactive board game grounded in Life Cycle Assessment (LCA) and systems thinking. The workshop brought together a diverse group of participants, including undergraduate and postgraduate students, researchers, educators, and sustainability practitioners, providing a mixed-knowledge environment for testing engagement and learning outcomes.

Participant Profile and Baseline Knowledge

The workshop reached full capacity with 50 registrations, with 34 participants attending on the day, reflecting strong interest in interactive approaches to sustainability education. A total of **22 participants** completed the evaluation survey. Participants came from varied backgrounds, with undergraduate and postgraduate students forming the majority, alongside educators and sustainability practitioners .

Prior familiarity with sustainability concepts varied:

- 43% reported being *slightly familiar*
- 24% *moderately familiar*
- Only a small proportion reported high familiarity

Familiarity with Life Cycle Assessment (LCA) was limited:

- Only 25% were familiar
- Others reported *somewhat familiar* or *no prior exposure*

This indicates that the workshop successfully engaged a **mixed and largely non-expert audience**, making it a meaningful test of accessibility.

Engagement and User Experience

The game demonstrated strong engagement levels**:**

- 58% rated the experience as engaging or very engaging
- Additional participants reported moderate engagement

Participants also indicated that:

- The game maintained attention effectively
- The pacing was generally appropriate
- Sustainability themes were clearly communicated

However, a recurring issue was:

- Initial difficulty in understanding rules
- Heavy reliance on verbal instructions

Learning Outcomes and Cognitive Impact

The workshop showed **clear evidence of learning and reflection**.
Participants reported that the game:

- Helped understand sustainability trade-offs (57% agree)
- Improved understanding of interconnections between production stages (57–62% agree)
- Increased awareness of environmental challenges in the chocolate supply chain (62% agree)

Further:

- 67% agreed the game helped understand how production choices affect sustainability outcomes
- Many participants reported reconsidering decisions during gameplay
- Strong agreement that the game encouraged systems thinking

These findings indicate that the game effectively supports:

- Experiential learning
- Decision-based reasoning
- Systems-level thinking

Perceived Effectiveness

Participants evaluated the game positively as a learning tool:

- 81% rated it as effective or very effective for teaching sustainability

Behavioural intent was also strong:

- 65% would play again
- 67% would recommend the game

This reinforces both engagement and perceived value

Application Potential

Participants identified multiple contexts for use:

- **Sustainability workshops – 77%**
- **Secondary education – 77%**
- **University teaching – 64%**
- **Corporate training – 50%**
- **Public engagement – 41%**

This demonstrates **cross-sector applicability**, extending beyond purely academic settings.

Qualitative Insights

Participants highlighted several key learning outcomes:

- “How things are interconnected”
- “Impact of each stage on the environment”
- “The knock-on effect of decisions”
- “Understanding systems thinking in a fun way”

Enjoyment was driven by:

- Decision-making elements
- Competition and interaction
- Event cards and quiz components
- The balance between knowledge and gameplay

Areas for Improvement

Participant feedback highlighted a need for clearer and more accessible instructions, particularly at the start of the game. Simplifying the onboarding process and providing brief written guidance could improve the overall experience. Minor refinements to gameplay flow and scoring clarity were also suggested, along with opportunities to expand game content in future iterations.

Participant Feedback

Participant responses highlighted the value of the interactive and systems-based approach. Many noted that the game made complex sustainability concepts more tangible and engaging, with several emphasising the importance of understanding interconnections and decision impacts across production stages.
Participants described the experience as:

- *"A fun way to understand systems thinking and LCA"*
- *"Helpful in seeing how decisions affect outcomes across the whole system"*
- *"Engaging, especially through decision-making and interaction with others"*

Interpretation

The evaluation suggests that:

- The **core concept is highly effective**, particularly in:
  - Demonstrating trade-offs
  - Encouraging systems thinking
  - Engaging participants interactively

- However, **usability and onboarding require improvement** to:
  - Reduce cognitive load
  - Improve accessibility
  - Enhance overall experience

Conclusion

The *Choco Chase* workshop demonstrates that **game-based learning can effectively translate complex sustainability concepts into interactive, experiential formats**.

The findings show:

- Strong engagement
- Measurable learning outcomes
- High perceived effectiveness

- Broad applicability across educational and professional contexts

While refinements are needed in instruction design and usability, the game shows **clear potential as a scalable tool for sustainability education, training, and public engagement**.