

Teaching about sustainability and Game Design: From the low-hanging fruits to the root of the problem



HELLO!

We are...



Sonia



Clayton



Trevin



Patrick

Sustainability in Game Design Education

Climate change as the biggest threat to human culture

Games as both a part of the problem and potentially a step towards a solution

Your students want this already, to make games that are good for their players and for their planet

Not an option, but a necessity



Today

Systemic perspectives on sustainability beyond greenwashing

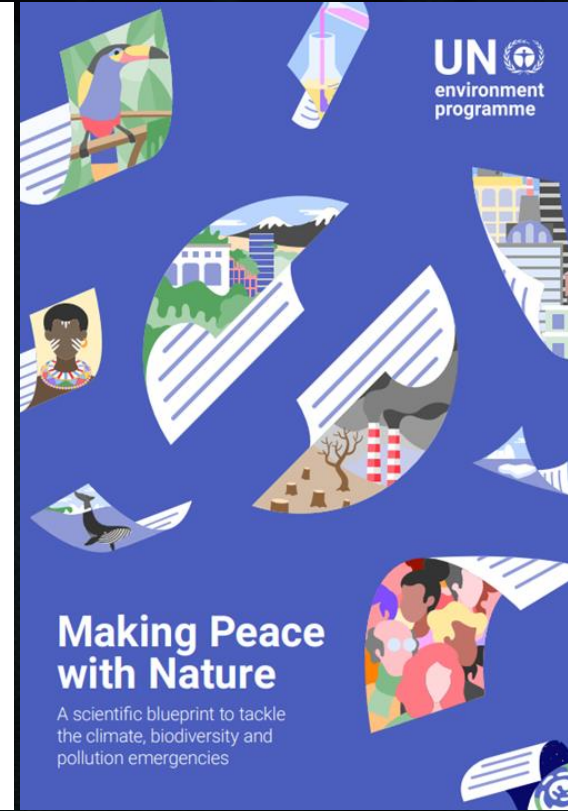
The IGDA Environmental Game Design Playbook

Experiences from teaching with the Playbook

Practical recommendations for including sustainability into YOUR classroom

Human knowledge, ingenuity, technology and cooperation can transform societies and economies and secure a sustainable future

- Decades of incremental efforts have not stemmed the environmental decline resulting from an expansive development model because vested and short-term interests often prevail.
- Only a system-wide transformation will achieve well-being for all within the Earth's capacity to support life, provide resources and absorb waste. This transformation will involve a fundamental change in the technological, economic and social organization of society, including world views, norms, values and governance.
- Major shifts in investment and regulation are key to just and informed transformations that overcome inertia and opposition from vested interests. Regulatory processes should embody transparent decision-making and good governance involving all relevant stakeholders. Opposition to change can be defused by redirecting subsidies toward alternative livelihoods and new business models.



Fundamental change... or incremental effort?

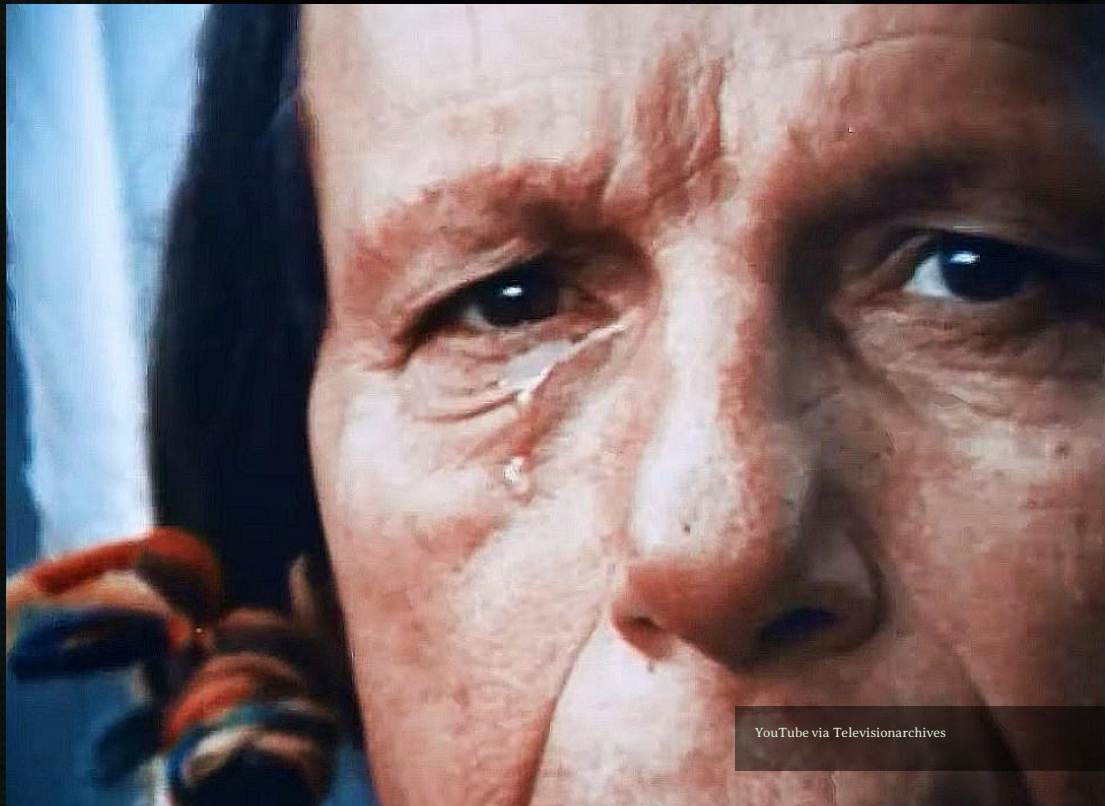
Are we working towards system-wide transformation?

And how can we tell?

Learning from the past!



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YouTube via Televisionarchives

Discursive Framing of Sustainability

Individualization - YOU are the problem (not the system)

Personal Responsibility - YOU need to change (not the system)

Moralization - Are YOU a good or bad human being?



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Who invented the Carbon Footprint?

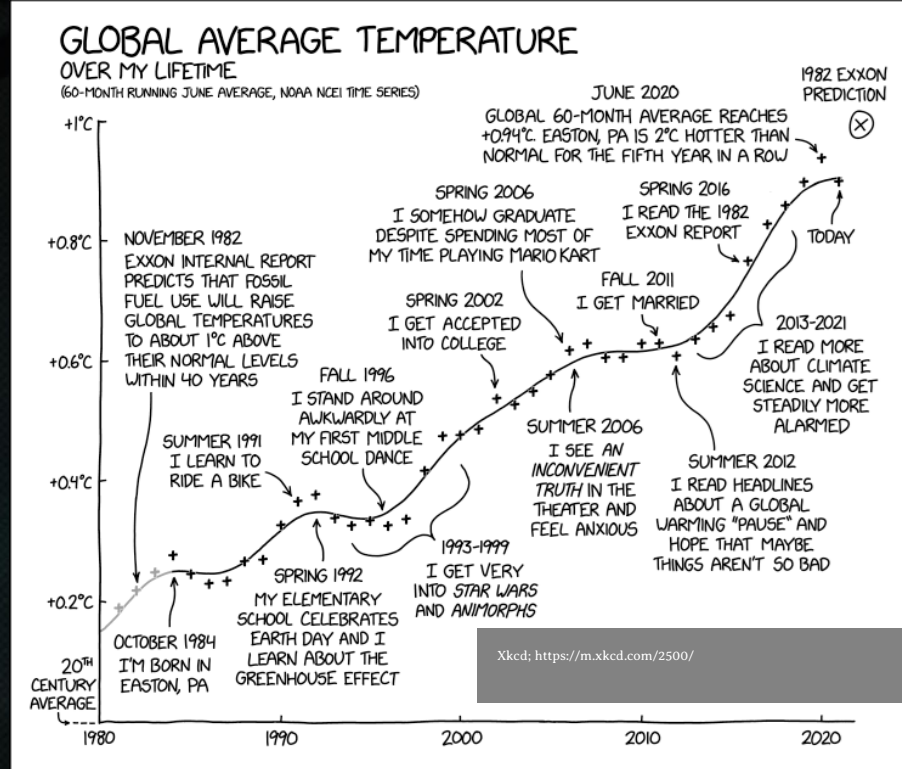


Beyond Greenwashing

Dead ends

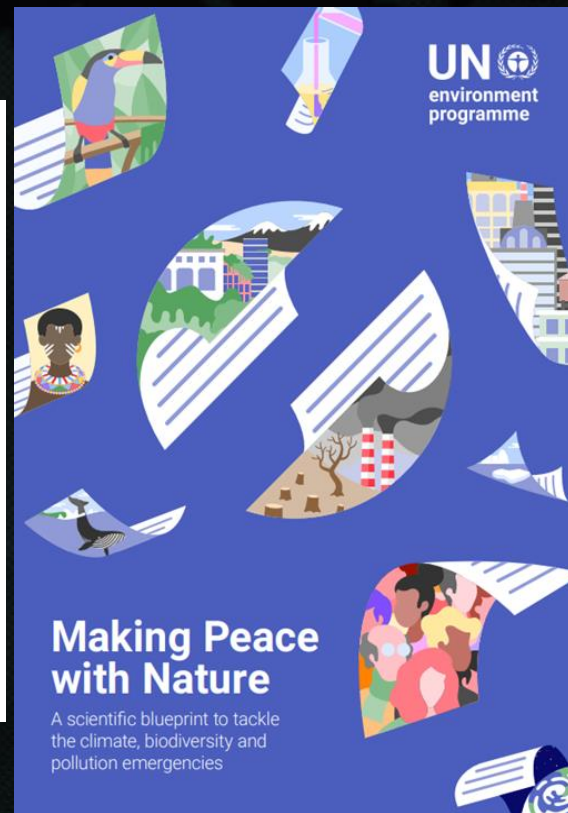
Distractions

Fake excuses



- *Insufficient measures* are interventions that may contribute somewhat to environmental protection in the short term, but detract from longer-term efforts towards transformative change (e.g. incentive programs for biodiversity and ecosystem services not accompanied by wider reform of harmful subsidies or environmental law).

Feasibility may vary widely across strategies and actions, but transformative enablers may only become feasible after intervention via incremental enablers or the triggering of tipping points. The changes that appear most feasible may be those that do not contribute to, or even impede, transformative change, for instance by retaining or even consolidating the power of interests vested in the status quo (see Section 5.3).



Greenwashing

Students and industry members who sincerely want to change the world, but do it inside the toxic frames of the polluting industries.

This can be **heartbreaking!**

The Michael Jackson Test

If it makes you want to sing *“Man in the mirror”*, then we might have a problem.

*“If you wanna make the world a better place,
then look at yourself and make a... change!”*

Teaching this critical analysis
leads to two main problems...

“What can we/games even do?”

“Can we take these perspectives into the industry?”

“Can we find people who want to work on and with this?”



Designing Games For Real Change

The background is a dark, textured image featuring silhouettes of leaves and branches. There are several out-of-focus light spots, or bokeh, in shades of green and blue, scattered across the right side of the frame.

Designing Games For Real Change

The background is a dark, textured surface with a fine grid pattern. It features silhouettes of leaves and branches in the upper half and soft, out-of-focus light spots (bokeh) in the lower right corner.

Designing Games For Real Change



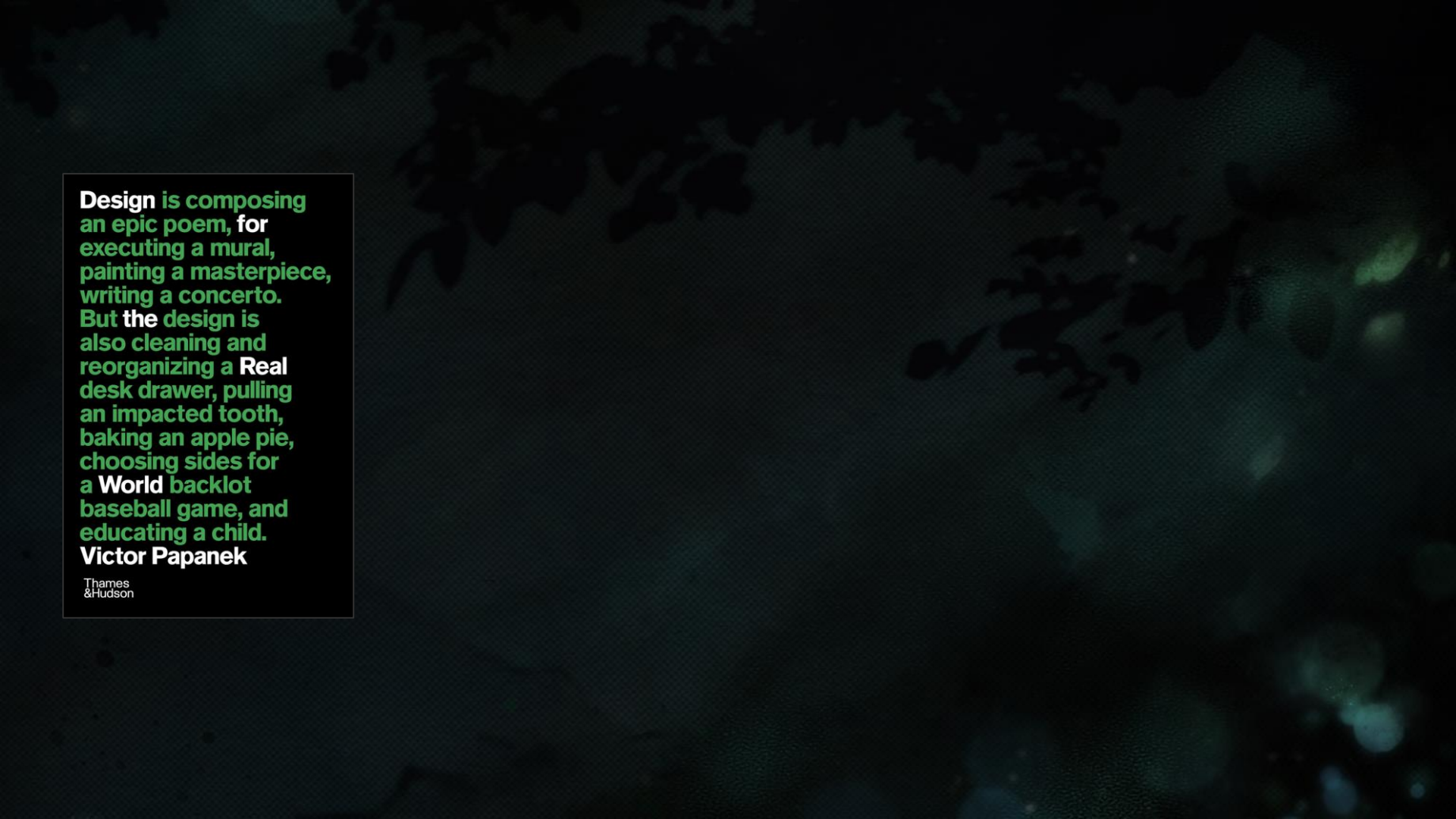
Designing Games For Real Change



Designing Games For Real Change

The background is a dark, textured surface, possibly a night sky or a close-up of a dark material. It features silhouettes of leaves and branches in the upper half, and a bokeh effect of out-of-focus light points in the lower half.

Designing Anything For Real Change



**Design is composing
an epic poem, for
executing a mural,
painting a masterpiece,
writing a concerto.
But the design is
also cleaning and
reorganizing a Real
desk drawer, pulling
an impacted tooth,
baking an apple pie,
choosing sides for
a World backlot
baseball game, and
educating a child.
Victor Papanek**

Thames
& Hudson

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"Altogether magnificent...Probably no single thinker has done
more in the last fifty years to transform our ideas about the
nature of urban life."—*Chicago Tribune*

SYSTEMS OF SURVIVAL

A Dialogue on the Moral
Foundations of Commerce and Politics

JANE JACOBS

author of

THE DEATH AND LIFE OF GREAT AMERICAN CITIES

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ARTURO ESCOBAR



Designs for the
Pluriverse

Radical Interdependence, Autonomy, and the Making of Worlds



Designing For Change Is A Process,
Not An Action

Designing for Change Is:

Multidisciplinary

Co-creation

Situated in specific context

Designing for Change Is:

Multidisciplinary

Co-creation

Situated in specific context

There is no solution to the climate crisis.

Designing for Change Is:

Multidisciplinary

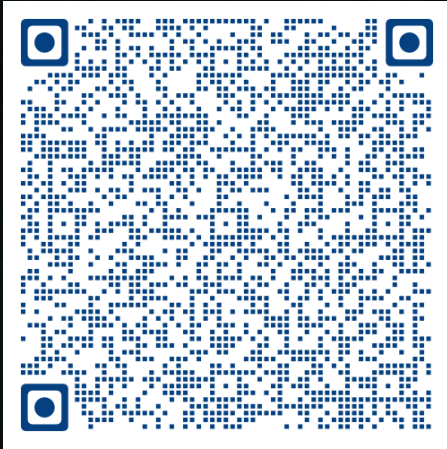
Co-creation

Situated in specific context

There are better approaches to constructive interventions.



The Next Climate Game Designers



The **Climate Special Interest Group** of the
International Game Developers Association Presents

THE ENVIRONMENTAL GAME DESIGN PLAYBOOK

Version 1.0 Alpha Release



WHAT'S CONTAINED IN THIS DOCUMENT?

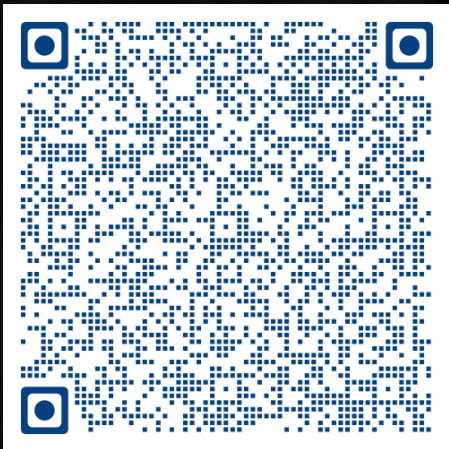
We'll explain relevant processes and techniques that have worked in the past and why they've been successful, along with practical examples and context. We know game development is complicated even before a team considers environmental messaging and impacts.

This is NOT a document of strict recipes you must follow to properly design a game aiming for an environmental impact on your players. Rather, our hope is that this document leaves you understanding

To support our section on Outcomes, we'll also tell you about other frameworks. This is far from the first game design framework, and it won't be the last. Frameworks are useful when they help you effectively pair your intentions with your creation, so we want to make sure you're aware of other frameworks in this space. We won't get jealous; use whatever works for you!

THE BULK OF THIS PLAYBOOK IS ABOUT TACTICS.

It's important to choose appropriate outcomes, but knowing the destination is only valuable if we have a plan to get there. How might you effectively design



FORCED DISCOMFORT

Forced Discomfort in this context is a design tactic in which players are placed into physical or psychological situations that can create unease, annoyance, or anxiety. This tactic requires extreme caution, thoughtfulness, and care to avoid creating unintentional harm to the player.

CONCEPTUAL EXAMPLE

You are working on a game focused on how noise pollution interferes with local wildlife. You cast the player in the role of one of the affected animals, set in a peaceful environment that is increasingly disrupted.

You can use **forced discomfort** by:

emotional responses and amplify immersion.

WHY USE IT?

Emotional or affective involvement is a critical aspect of environmental education and persuasion. Games that use forced discomfort create deep and impactful interactions. The actual discomfort forced on the player drives home the joys and difficulties of the intended lived experience. It can provide insight into emotions and painful experiences that a player has never accessed. By providing players with a new perspective, games that use forced discomfort can serve as potential pathways to eliciting emotional connection, creating empathy, and inspiring **pro-environmental attitudes**.

It is critical, however, that the potential emotional experience should be coupled with actionable

The No Win Scenario

What if the world is too big to fix?

What if the world is too broken to fix?

What if the world is too far gone to fix?

What if the world is too far gone to fix?

What if the world is too far gone to fix?

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The No Win Scenario

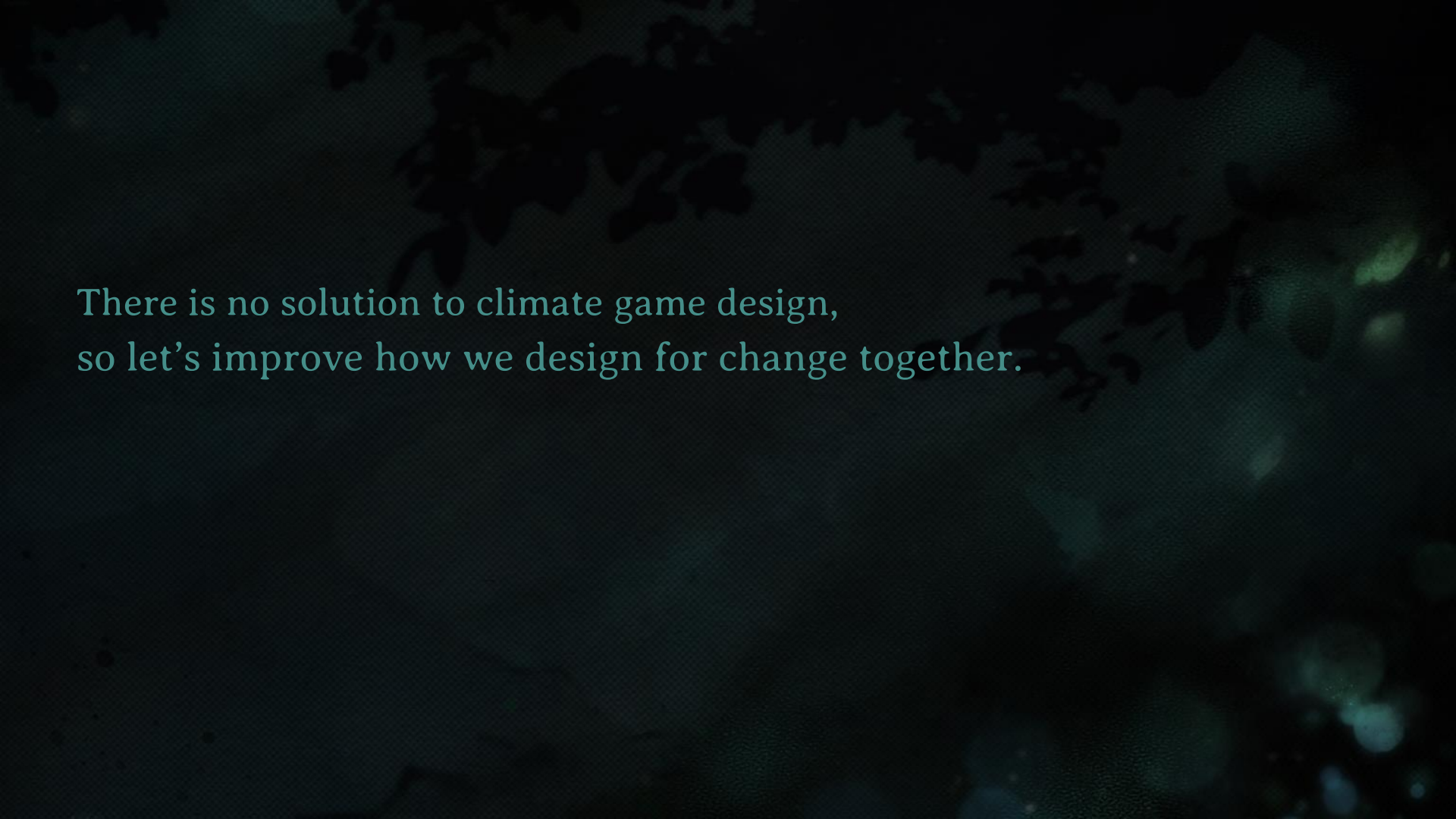


Gonzalo Frasca's
"September 12th: A Toy World"

Coming up:

Clayton: research and process behind the playbook

Sonia: using the playbook in the classroom



There is no solution to climate game design,
so let's improve how we design for change together.

The Environmental Game Design Playbook

Positive psychology is critical: empowerment over fear.

Science is key.

Transformational, not just behavioral.

Designing to Enact Real Change

We must base our designs on evidence.

Empowering individual action empowers individuals.

Individuals are not at fault, but they can be in power.

Action: Unlocking Learner Potential

ACTION

Action: Unlocking Learner Potential

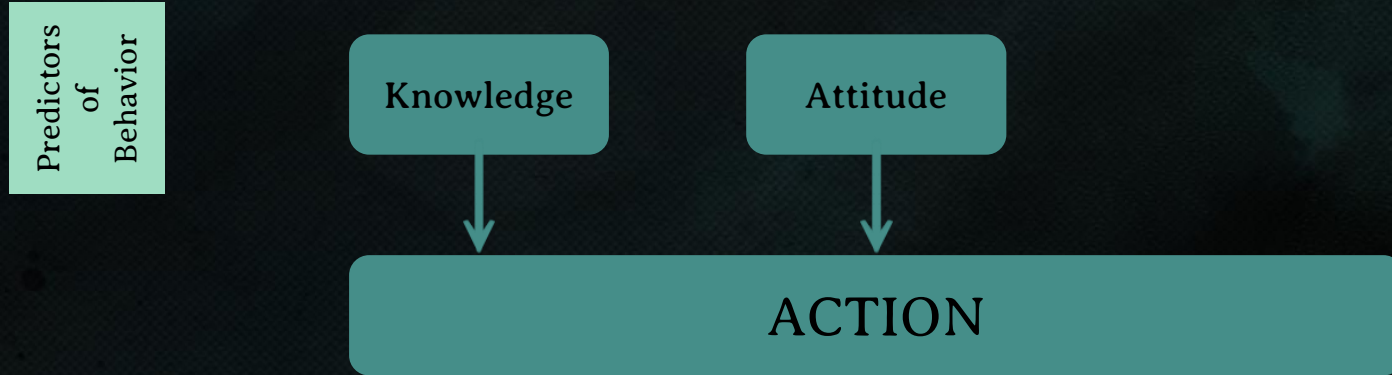
Predictors
of
Behavior

Knowledge



ACTION

Action: Unlocking Learner Potential



Action: Unlocking Learner Potential

Qualities of
Games

Predictors
of
Behavior

Knowledge

Attitude

Perceived
Self-Efficacy

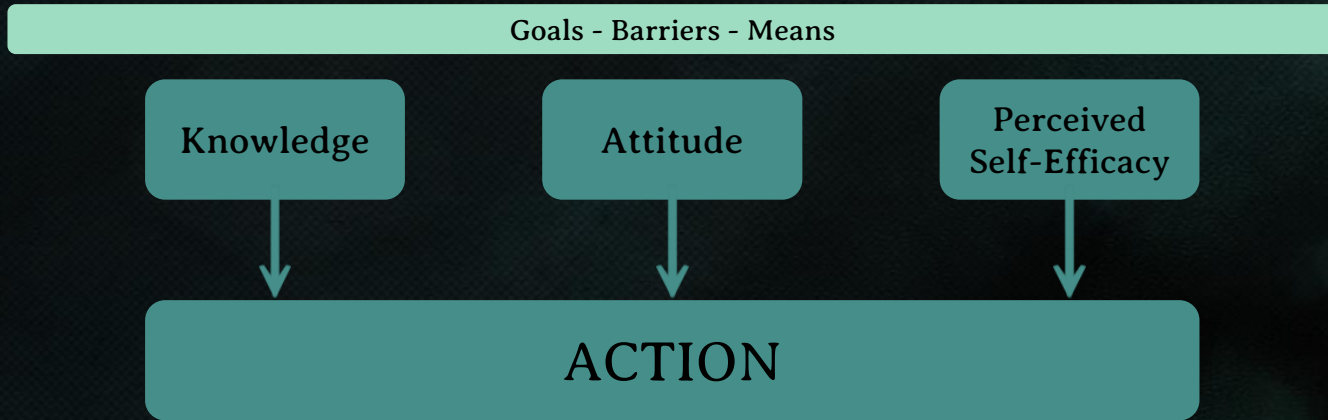
ACTION



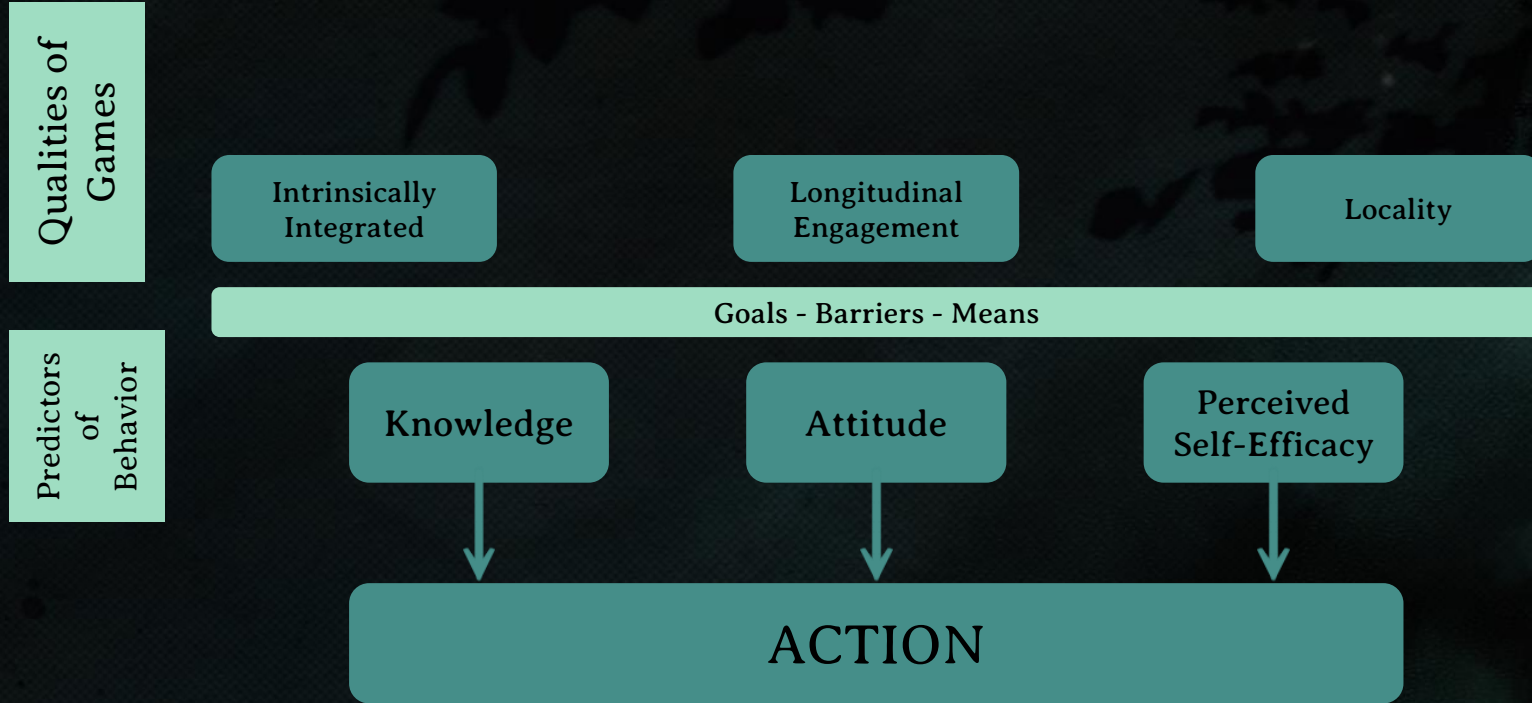
Action: Unlocking Learner Potential

Qualities of
Games

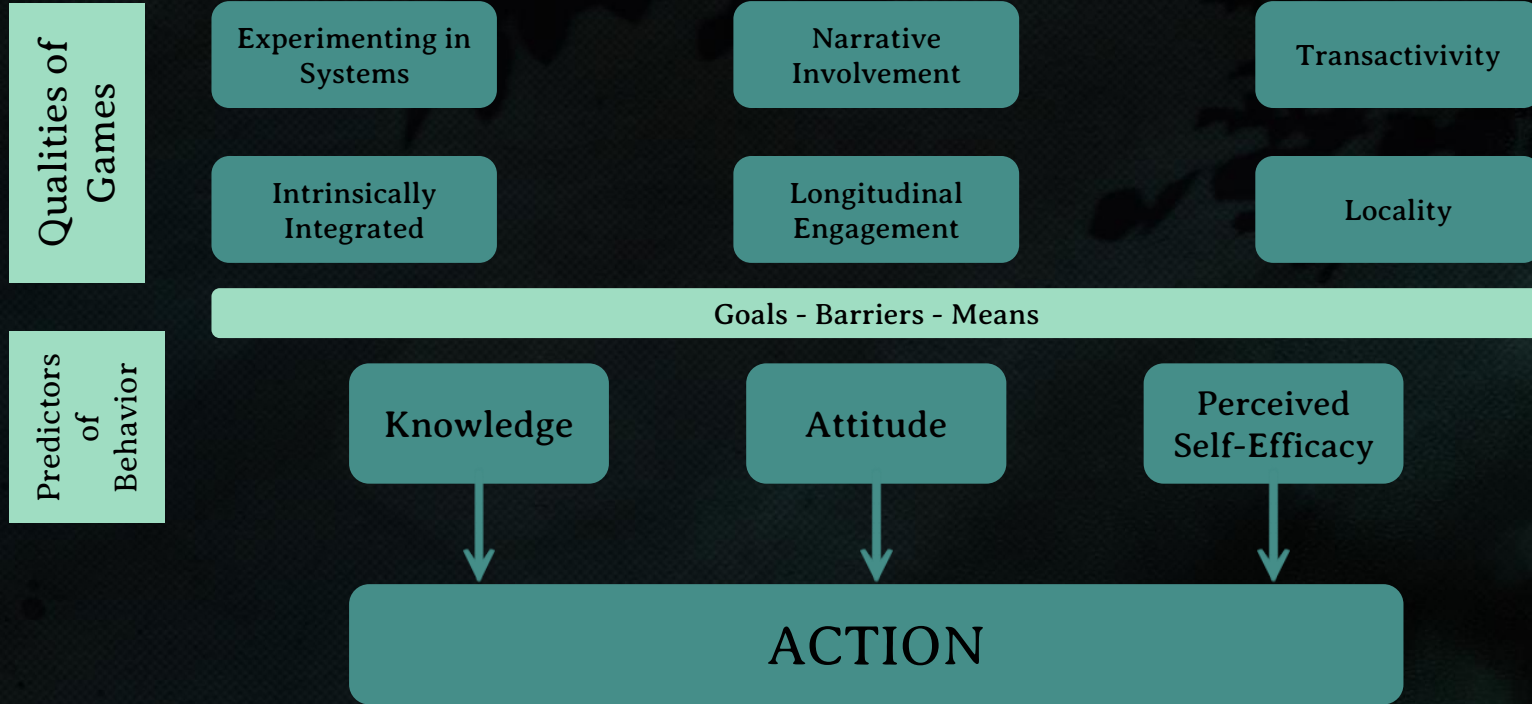
Predictors
of
Behavior



Action: Unlocking Learner Potential



Action: Unlocking Learner Potential

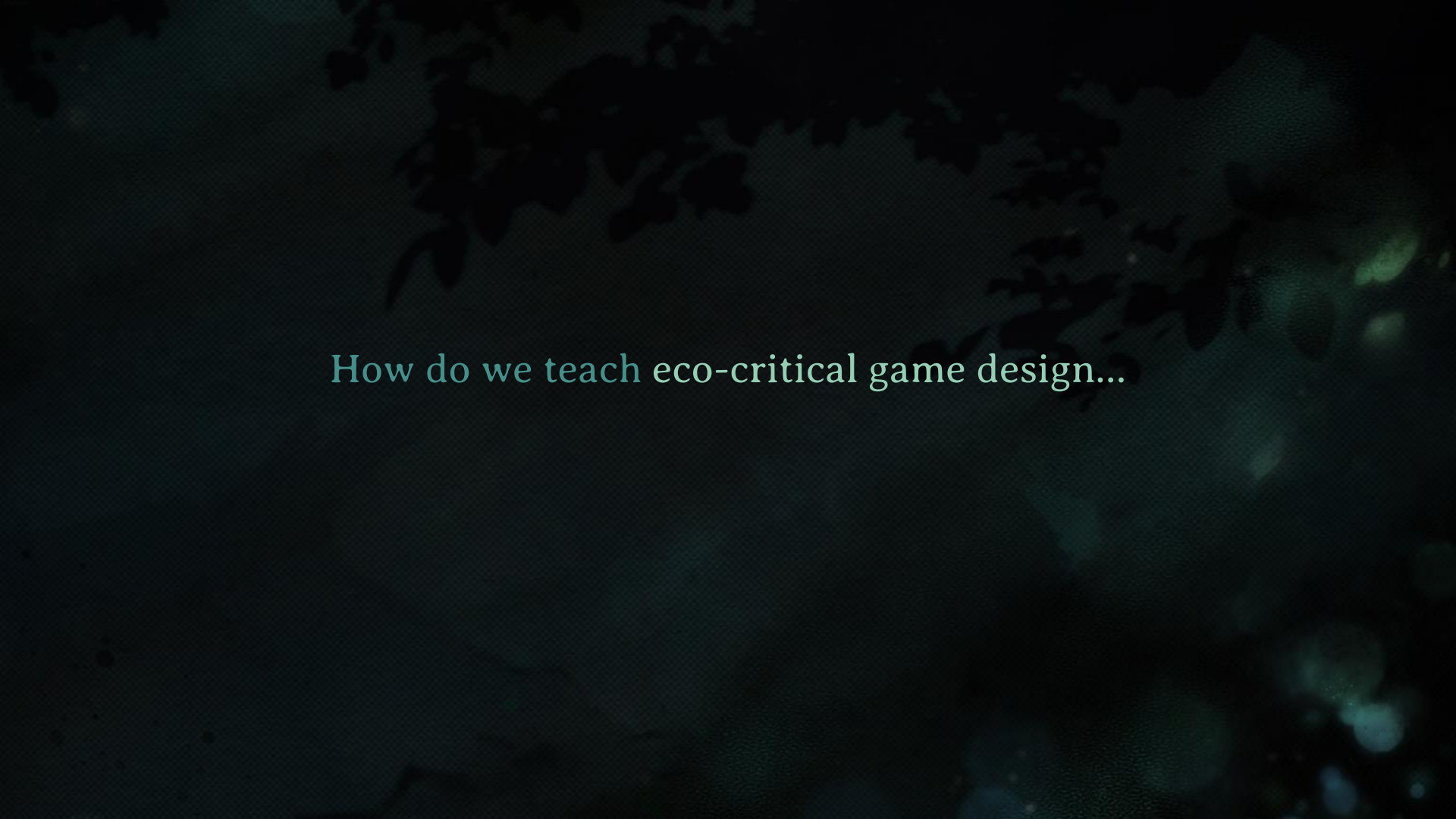




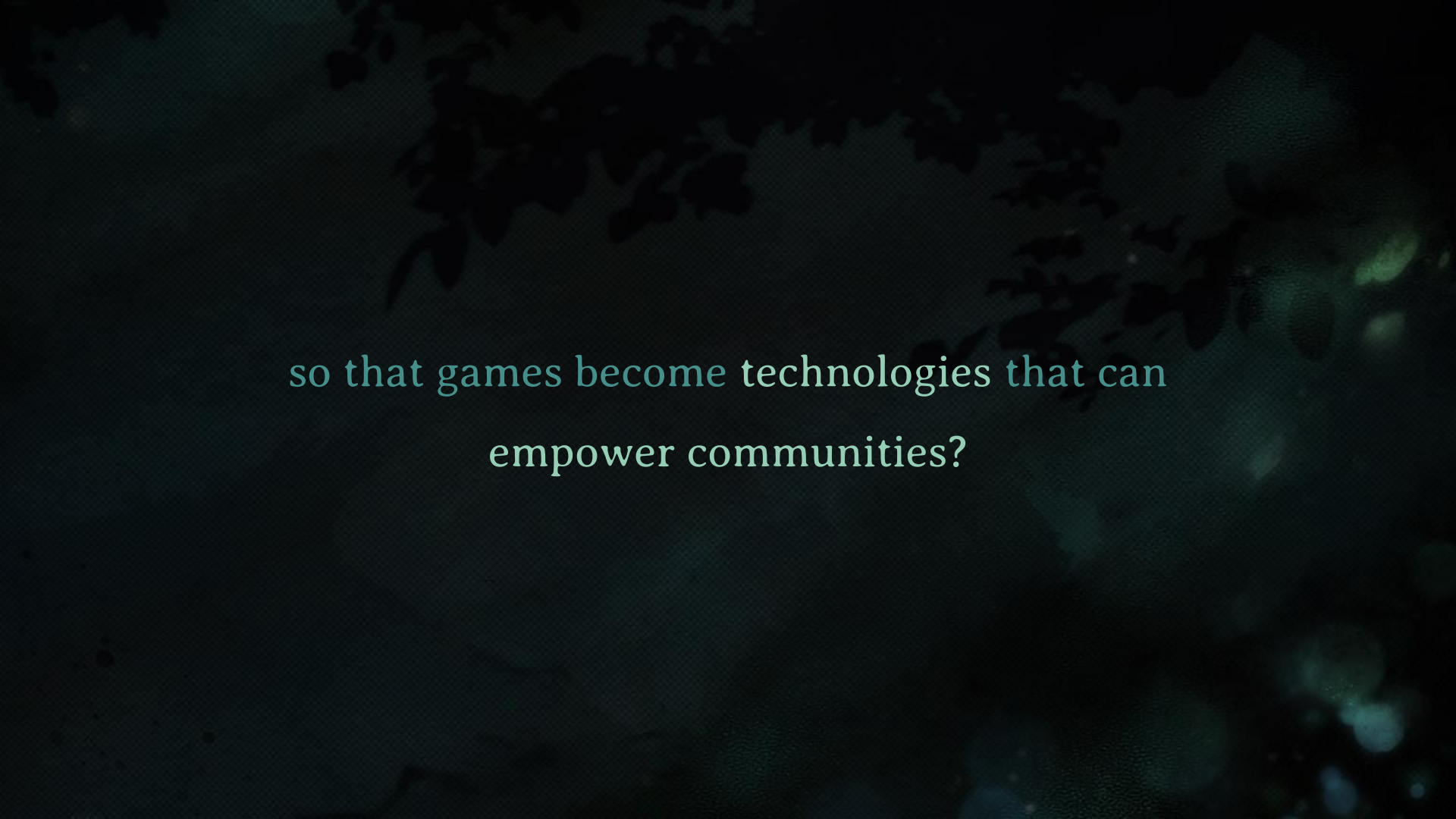
A caption from a documentary film “The Inca Grass Bridge of Q’eswachaka” (Arte Reportage 2022)



The bridge is a technology that unities
& empowers local communities



How do we teach eco-critical game design...



so that games become technologies that can
empower communities?

Case Study from Cologne Game Lab



Cologne Game Lab
Institute for Game Development
and Research

Technology, Arts, Sciences, TH
Köln, Germany

www.colognegamelab.de

Case Study from Cologne Game Lab

Program & Course: B.A. in Digital Games; Collaborative Projects (May-July 2022);



Selected artwork from games designed by B.A. 4 students of Cologne Game Lab (Collaborative Projects, summer semester 2022)

Case Study from Cologne Game Lab

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Deliverable: playable game prototypes (39 students, 10 teams)



Case Study from Cologne Game Lab

Program & Course: B.A. in Digital Games; Collaborative Projects (May-July 2022);

Deliverable: playable game prototypes (39 students, 10 teams)

External mentors: Trevin York, Hugo Bille, Paula Angela Escudra (IGDA Climate SIG)



Case Study from Cologne Game Lab

Greening Games

www.greeningames.eu



Case Study from Cologne Game Lab

Didactic goal:

to explore video games as forms of critical
ecological thought

Case Study from Cologne Game Lab

*Hold my Hand,
I'm Scared*



Case Study from Cologne Game Lab

*Hold my Hand,
I'm Scared*

Planet B



Case Study from Cologne Game Lab

*Hold my Hand,
I'm Scared*

Planet B

Bee Are



Case Study from Cologne Game Lab

*Hold my Hand,
I'm Scared*

100 Days of Wind

Planet B

Bee Are



Lessons Learned & Challenges

Lesson 1

Foster Conscious & Critical Game Design



Critical Game Design & Empowered Action

Game Design & Game Studies

Game Design & Game Studies

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Game Design & Game Studies

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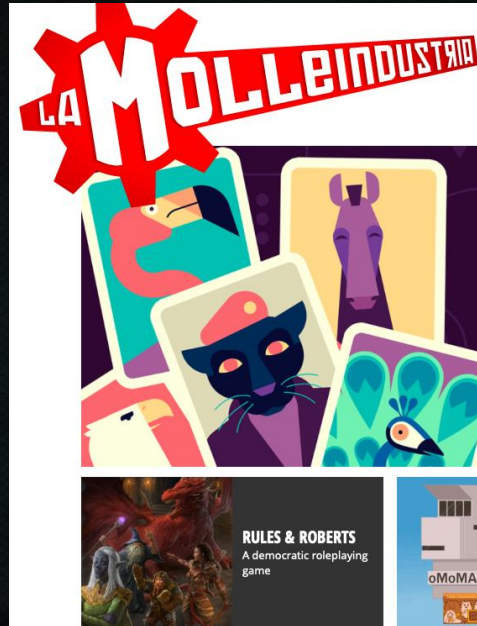
Game Design & Game Studies

Game Design & Game Studies

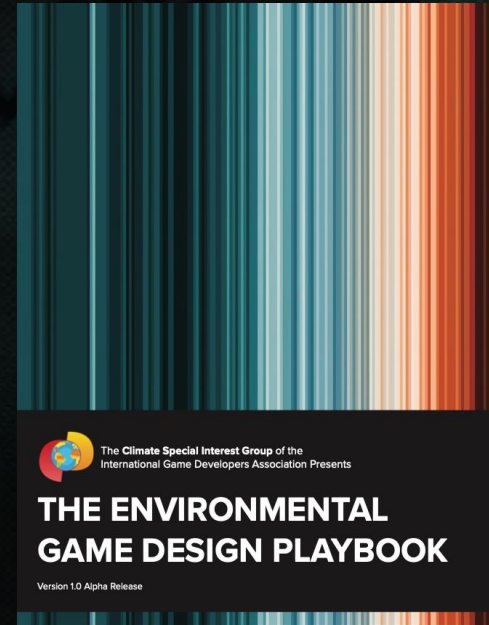
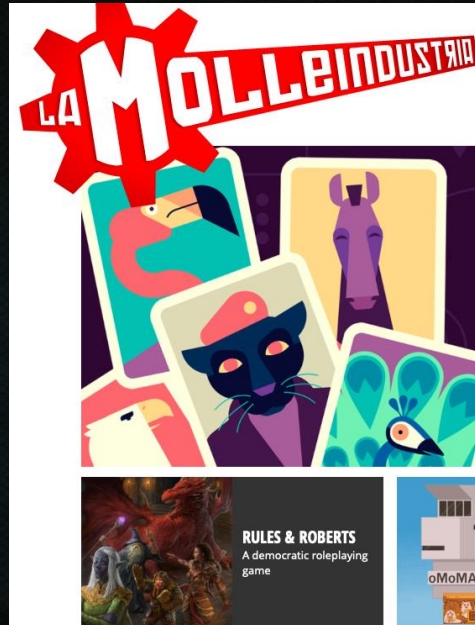
Critical Game Design & Empowered Action



Critical Game Design & Empowered Action



Critical Game Design & Empowered Action



Lessons Learned & Challenges

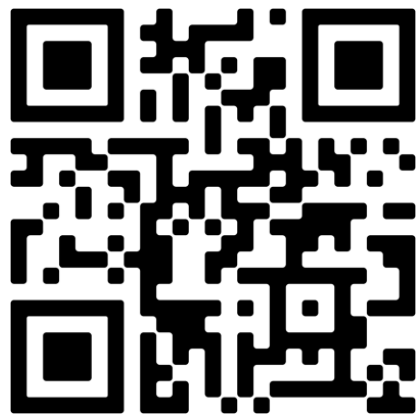
Lesson 2

Dream Global, Design Local





Eco-games only make sense if they become technologies that can unite & empower communities.



GREENING GAMES EDUCATION

A REPORT ON TEACHING AND RESEARCHING
ENVIRONMENTAL SUSTAINABILITY IN THE
CONTEXT OF VIDEO GAMES

Findings: The need for a safe space to discuss (systemic) sustainability

Environmentally conscious students had been gaslit by teachers and family.

There is a fear of bringing critical ideas into the industry.

Students felt that the Playbook offered a believable way to connect their concerns to industry approaches.

Does it work? Teaching Experience

They were looking for more connection to systemic aims.

Formulating a path to systemic aims is difficult.

An honest engagement with sustainability requires a critical look at capitalism.

Paths forward

Designing to empower action to connect to real communities and work towards systemic change.

Thank you!

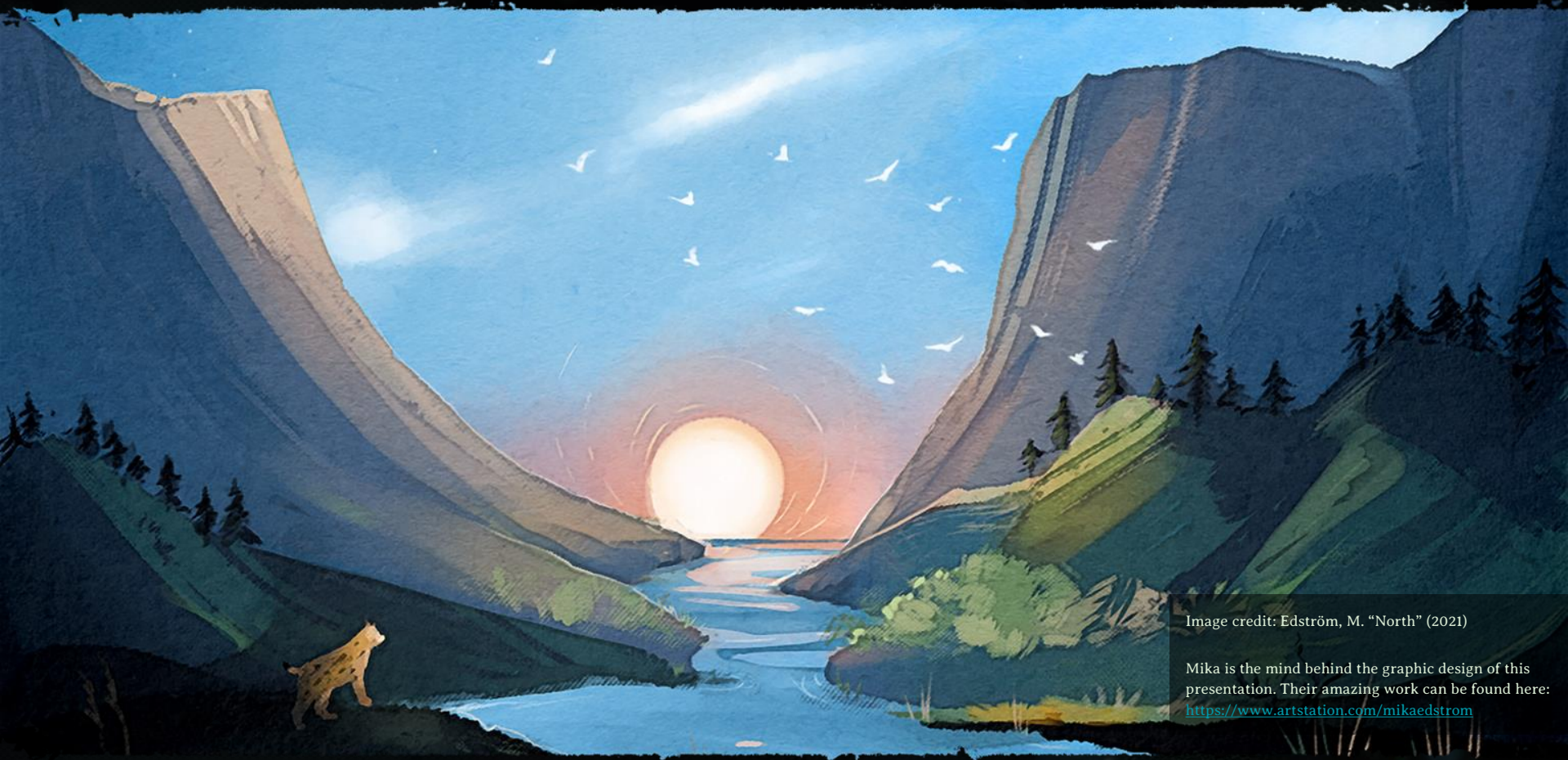


Image credit: Edström, M. "North" (2021)

Mika is the mind behind the graphic design of this presentation. Their amazing work can be found here:
<https://www.artstation.com/mikaedstrom>

Sources

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