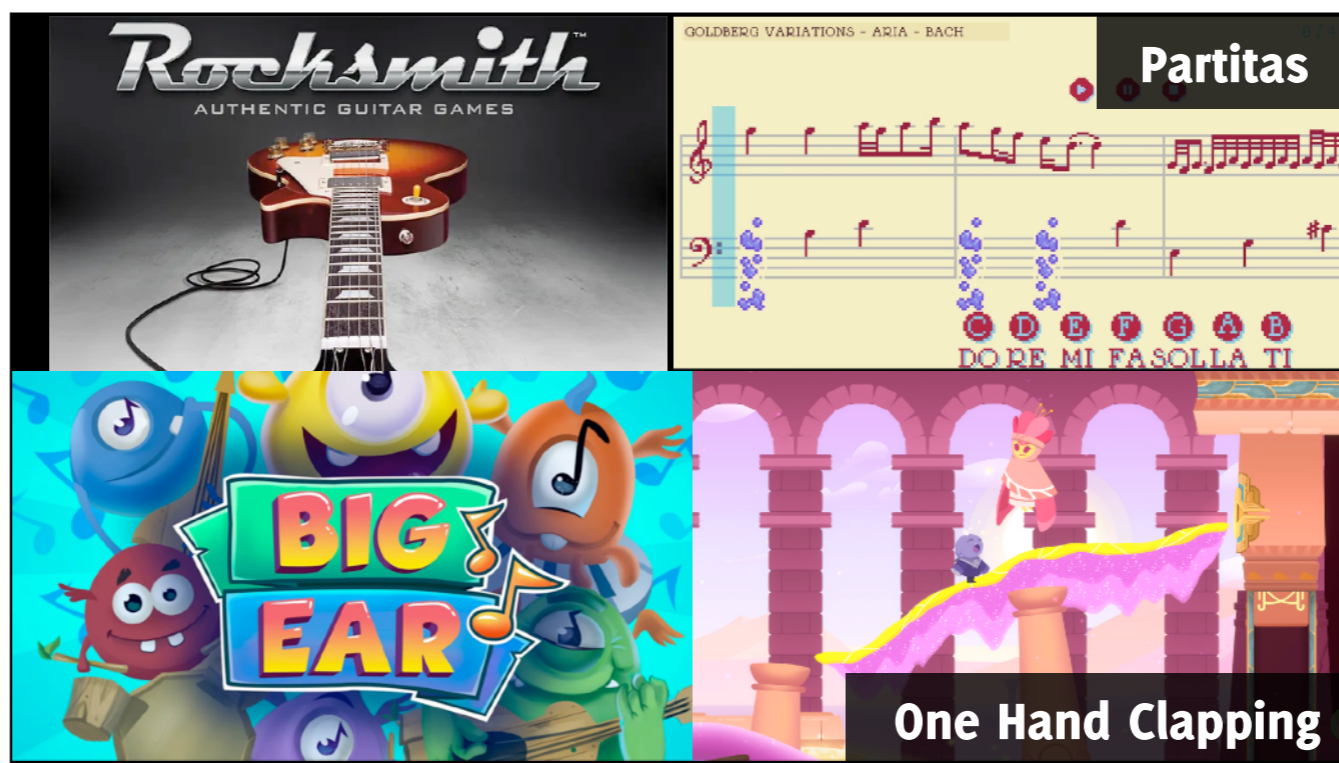# Play to Learn

from Serious Games to **just** Games

Andrea Franceschini*
Antonio Rodà

University of Padova, Italy

I promise I'll get to serious games, but let me take a step back for a moment.

I'm a Computer Scientist, a technologist, and about 10 years ago I was researching playful ways of learning and practicing musical concepts, and the panorama of educational games

was already pretty decent back then, and it got better with time. Some of these games are better than others, but overall we have some good options these days.

When I was younger, we didn't have very good educational video games. Those I can remember were mostly of the type known as **INSTRUCTIONAL** – **CBT** (Computer Based Training) – often very focused and based on drill-and-practice.

so I figured if things improved for music, they must have improved for other topics too, but when I started lookin
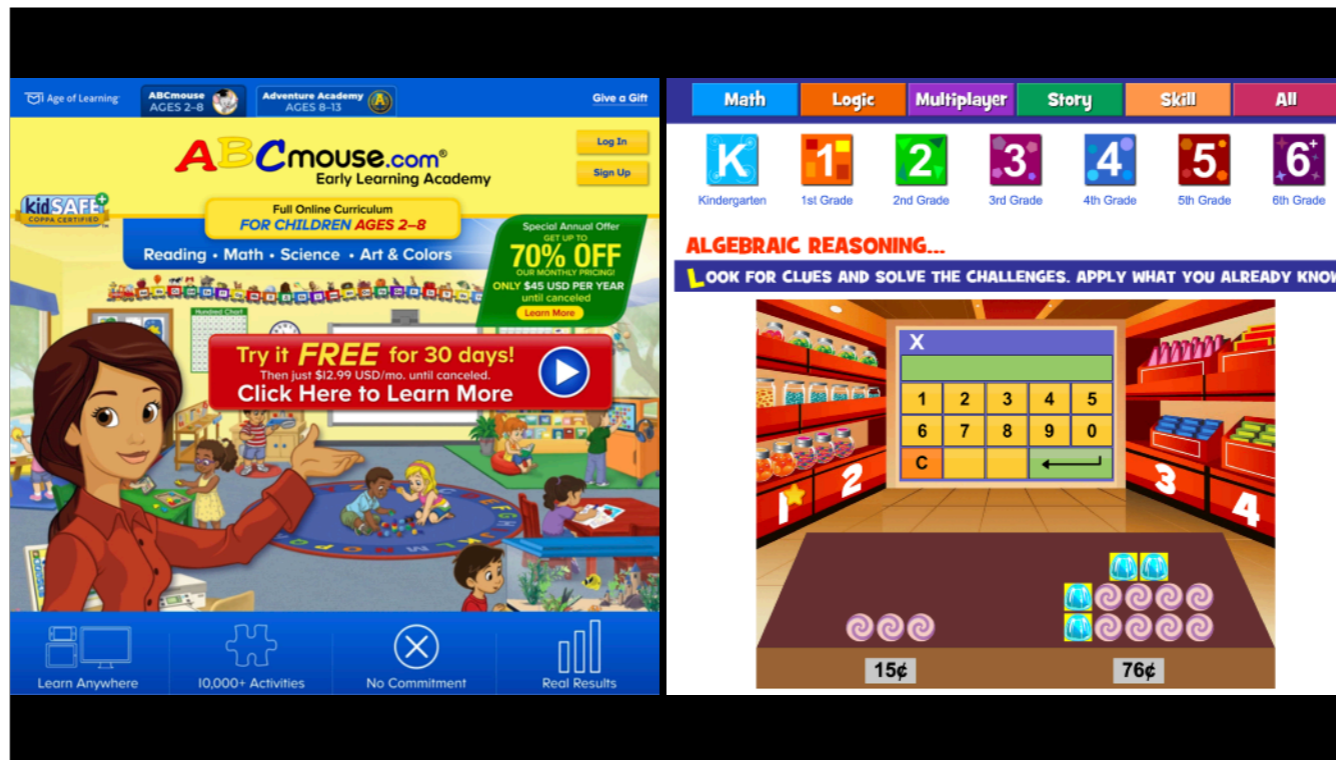
this is what came up. Tons of cookie-cutter, generic, drill-and-practice games, in some cases you could even see the pages of the exercise books through the disguise. CBT-style, again. Not very exciting.

There are tons of these out there and for good reason: teachers **love** these because they map to the curriculum, and they focus on skills practice and evaluation, and that's exactly what the teachers need. This is mostly what comes up on an online search!

And it's really hard to find something to learn broader or more general skills and topics. **So that got me thinking.**
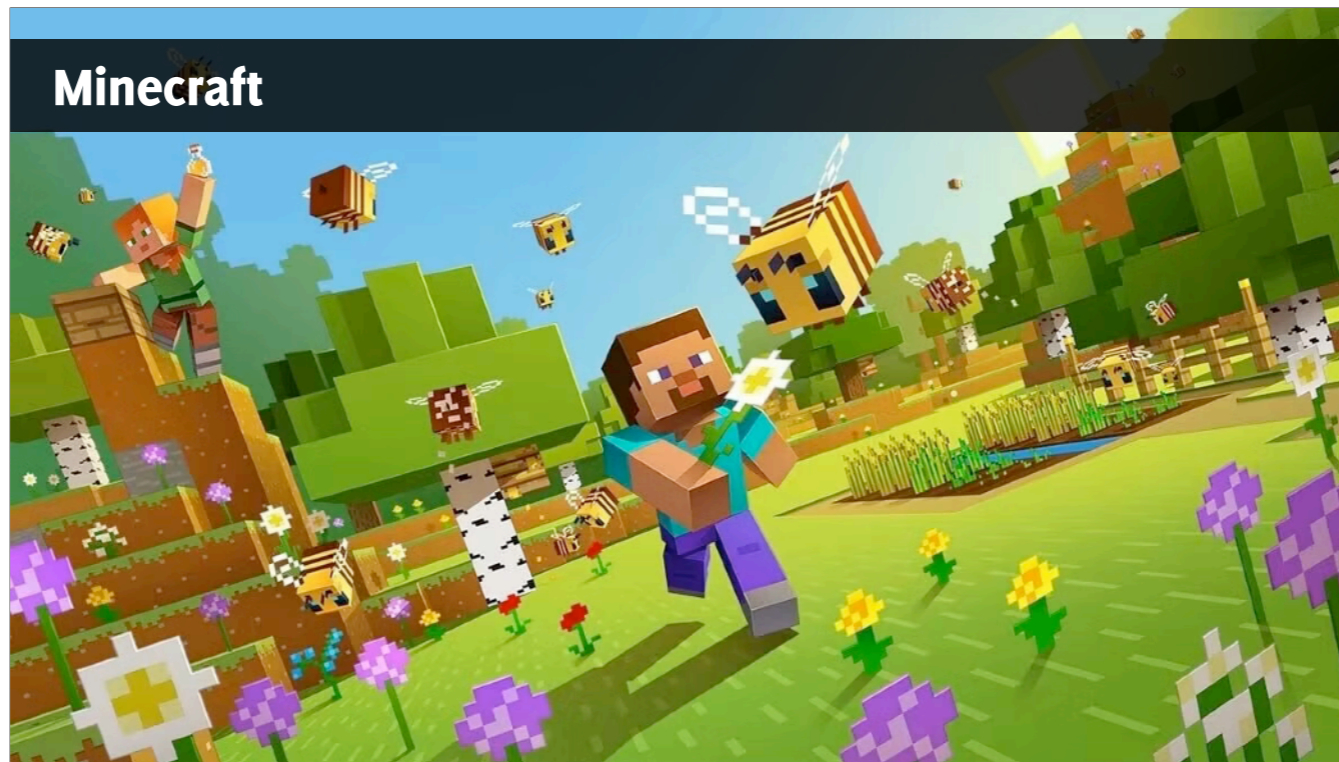
Minecraft

- I spent HOURS on Minecraft for fun
- I already knew digital electronics
- The game gave me a new appreciation for its applications
    - simple circuits to full blown computers
- Elements of geology, chemistry, farming, ecology, planning, problem solving, lateral thinking, maths
- EVEN language

Minecraft

Solve the puzzle

Language learning puzzle mini-game developed by **Cambridge Assessment**

Cambridge Assessment uses it to teach English as a first and second language

and on this topic

«... personally one of the games that taught me the most was **Monkey Island 2**, because [...] it taught me a lot of vocabulary :D that's because **it was really fun and rather than missing out on the game, little 12 year old me preferred to learn English, luckily** :D»

I've had this conversation while making this presentation, the important bit is

THE GAME WAS REALLY FUN AND RATHER THAN MISSING OUT I PREFERRED TO LEARN ENGLISH

Means make progress **dependent** on learning
- not the best according to the educators I spoke to
- but FORTUNATELY there are other ways to teach through games
- I'll just go through some examples, like
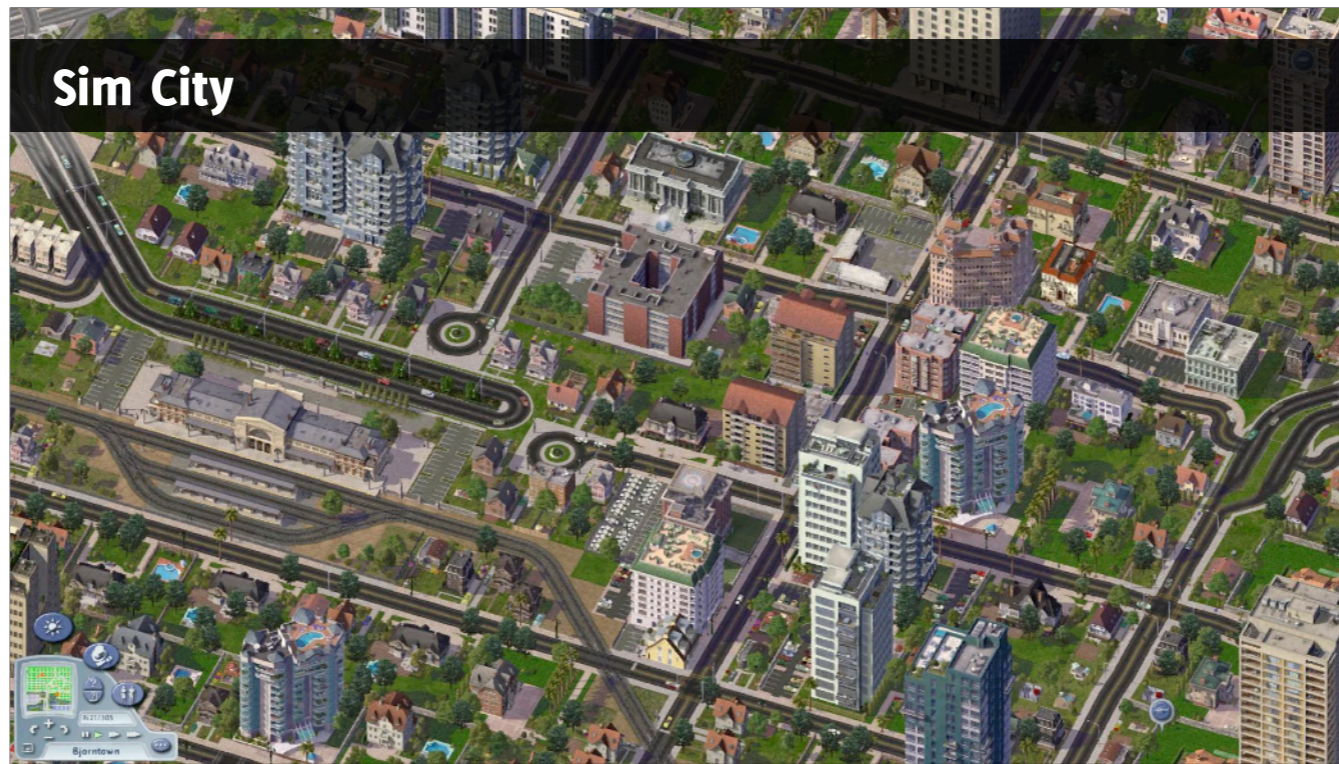
Assassin's Creed

Assassin's Creed can be a **vehicle** to talk about history and social studies, so learning and gameplay are **ORTHOGONAL**, and in a similar but different way we can use
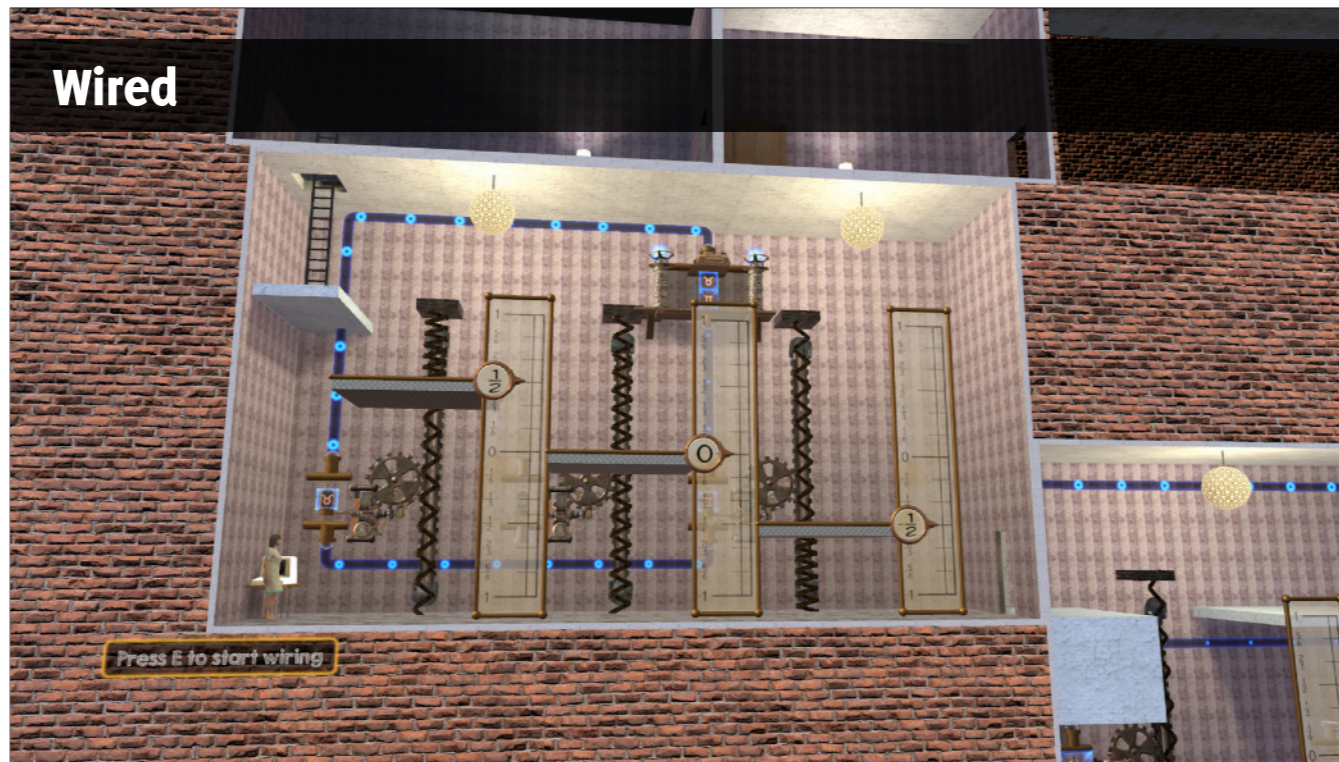
Age of Empires
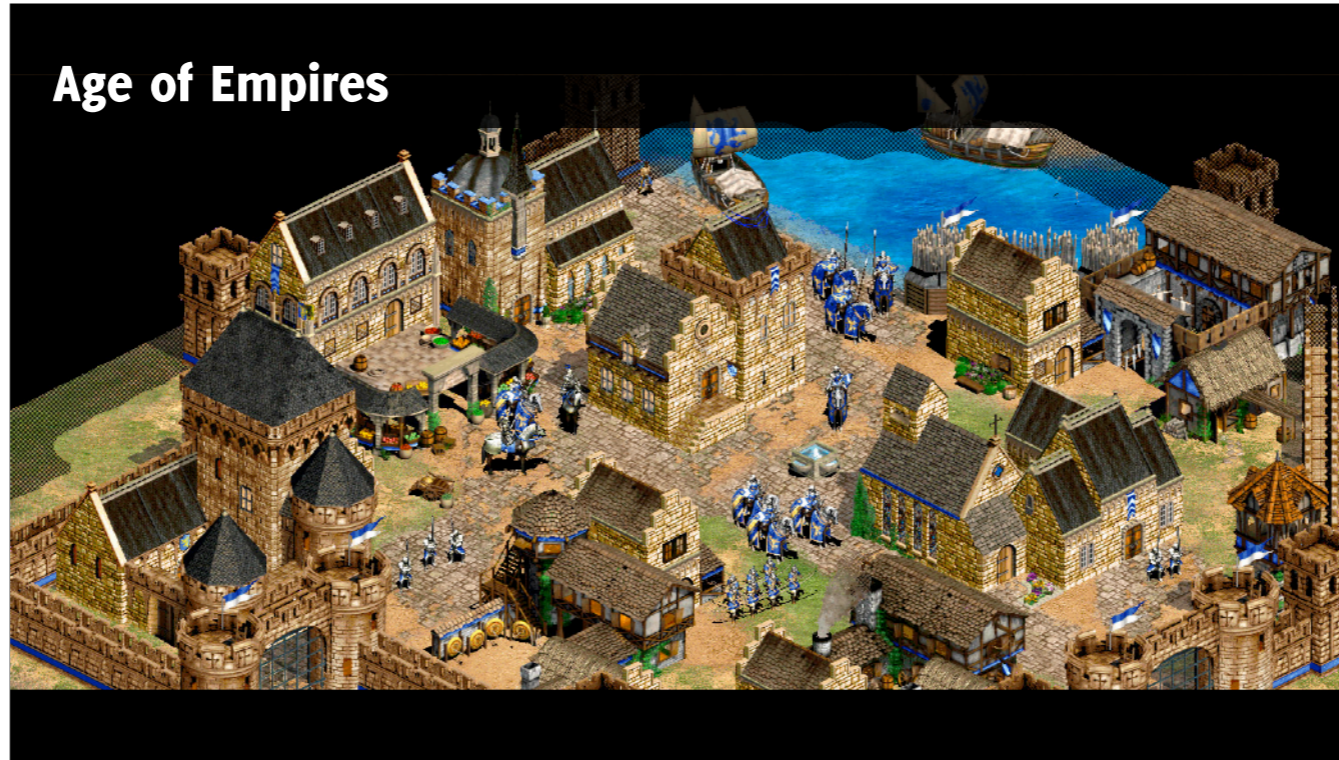
… Age of Empires, to learn strategy, management, and development **ALL THROUGH GAMEPLAY**

Sim City

… or you can play local government, here we are
- building and managing a city (URBAN PLANNING)
- deal with real-time events (CONTINGENCY planning, emergency response, problem solving)
- all conveyed **THROUGH GAMEPLAY**…

Wired

Press E to start wiring

… and in the same way we have electricity and circuits again, here in a puzzle-platformer where the electrical puzzles are woven **INTO the gameplay with explanations given as part of the story**…
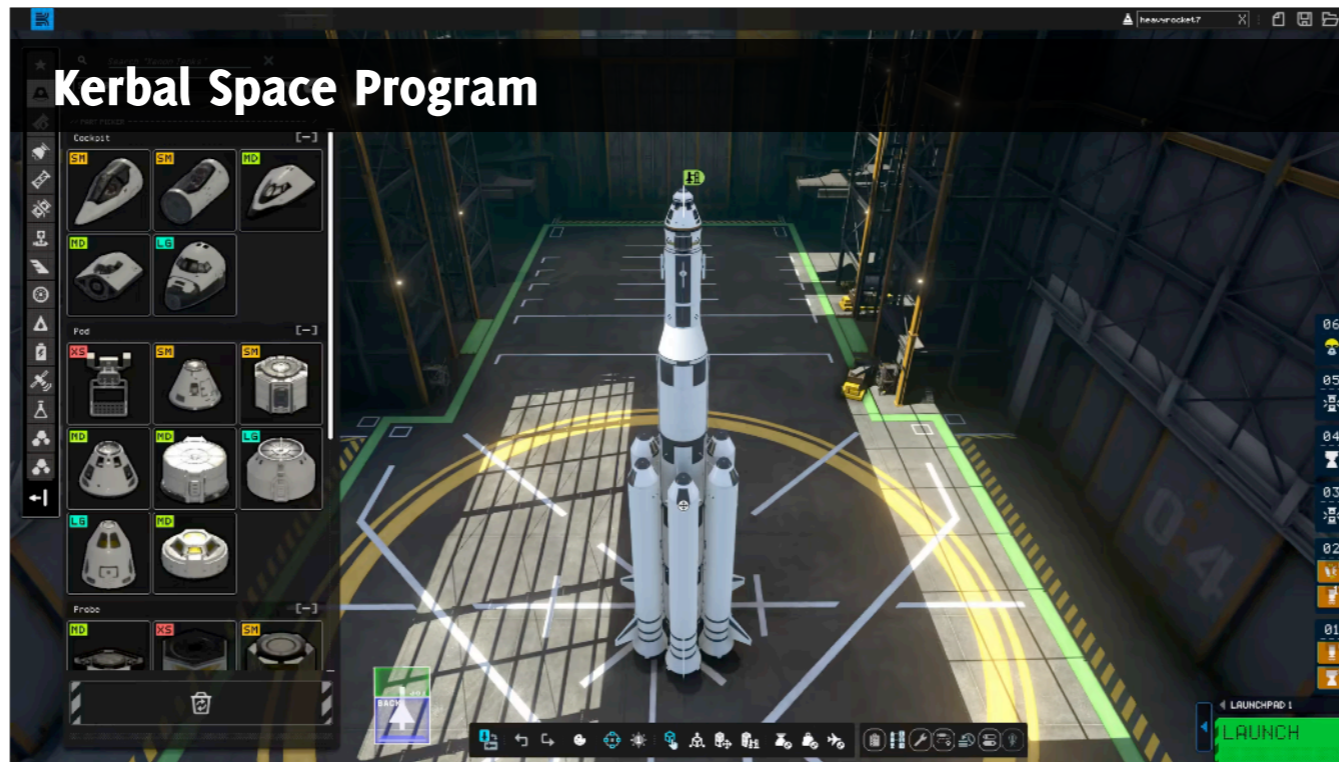
Even better, here we
- manage a space program and send rockets to space
- so we learn **budgeting**, **experimental design**
- additional bonus of **physics and orbital mechanics**

So, back to the original question: **why do the vast majority of games seem so dull and boring and badly designed**?
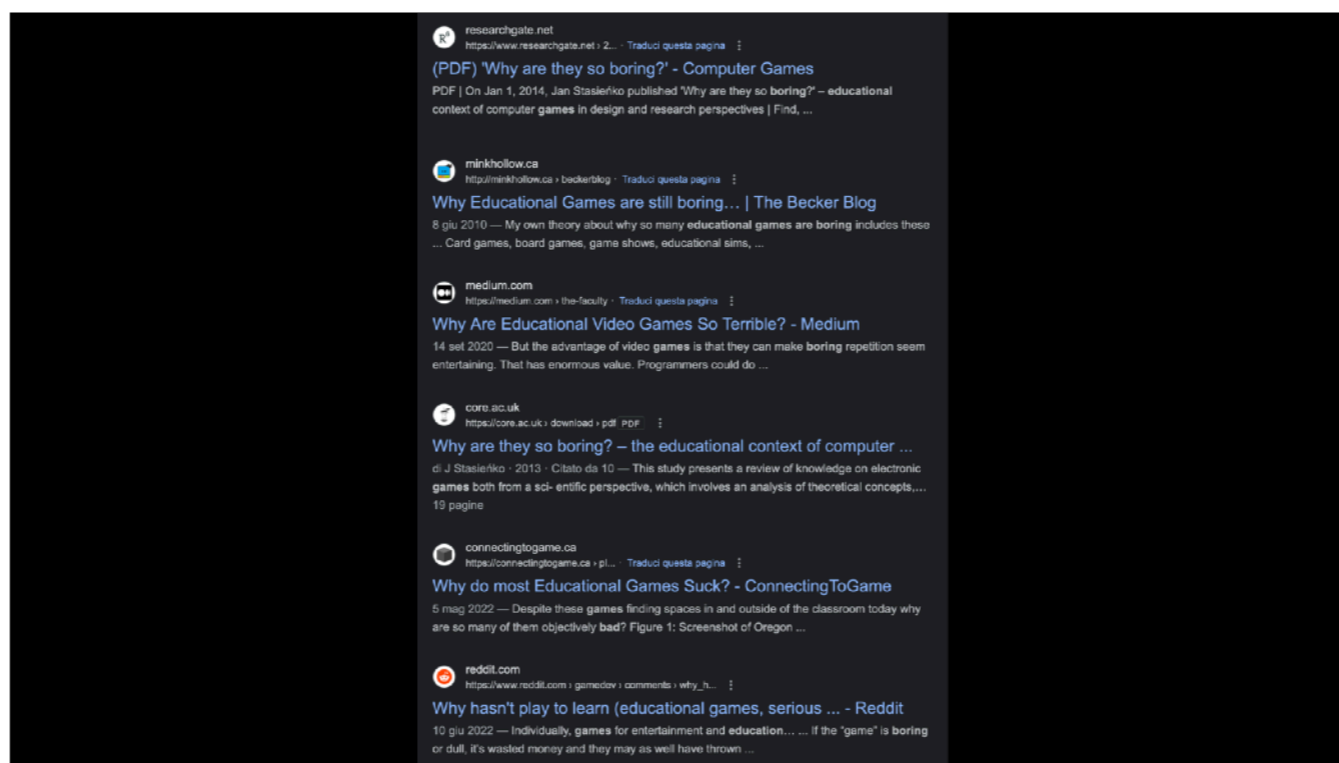
This is not just me wondering, it's like

r/gamedev · 1 yr. ago
by zenbakery

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Why hasn't play to learn (educational games, serious games etc.) taken off?

Online education is growing, learning can be tedious, and games are fun. Individually, games for entertainment and education technology are big industries, but their intersection seems subdued. For e.g., there aren't many educators who use games as tools to teach trigonometry, algorithms or physics better.

Is it a lack of money, design talent, interest etc.? Else, if it has grown but in specific niches, please correct my understanding.

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🔒 **Why educational game has to be boring?**

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Why aren't educational games the same quality as entertainment games?

I've always wondered why educational games are so boring and poor quality compared to traditional games.

Take an industry leader, like ABC Mouse. That quality of Flash-style animation would never fly in gaming, yet it

Why Educational Games are still boring…

Posted on June 8, 2010 by Katrin Becker

Approximate Reading Time: 3 minutes

One of the things I keep coming up against again and again is the 'language' problem. Having come from computer science and only recently introduced to 'formal' education (I''ve been teaching at university for ~30 years), I was at first quite confused by the way education distinguishes between

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🔒 Why educational game has to be boring?

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JAN STASIEŃKO

Dolnośląska Szkoła Wyższa

'WHY ARE THEY SO BORING?' – THE EDUCATIONAL CONTEXT OF COMPUTER GAMES FROM A DESIGN AND A RESEARCH PERSPECTIVE

ABSTRACT. Stasieńko Jan, 'Why are they so boring?' – *the educational context of computer games from a design and a research perspective* [„Dlaczego one są takie nudne?" – edukacyjny kontekst gier komputerowych z projektowej i badawczej perspektywy]. „Neodidagmata" 35, Poznań 2013, Adam Mickiewicz University Press, pp. 47–64. ISBN 978-83-232-2685-7. ISSN 0077-653X.

r/gamedev · 9 mo. ago
by HoneyBadger08

...aren't educational games the same quality as
...rtainment games?

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...stand why educational games are so boring and poor quality compared to traditional games

JAN STASIEŃKO
Dolnośląska Szkoła Wyższa

'WHY ARE THEY SO BORING?' – THE EDUCATIONAL

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Connections   Bites   About

Connecting to Game...

May 5 • Written By Scott DeJong

Why do most Educational Games Suck?

One of the things I keep coming up against again and again is the 'language' problem. Having come from computer science and only recently introduced to 'formal' education (I've been teaching at university for ~30 years), I was at first quite confused by the way education distinguishes between
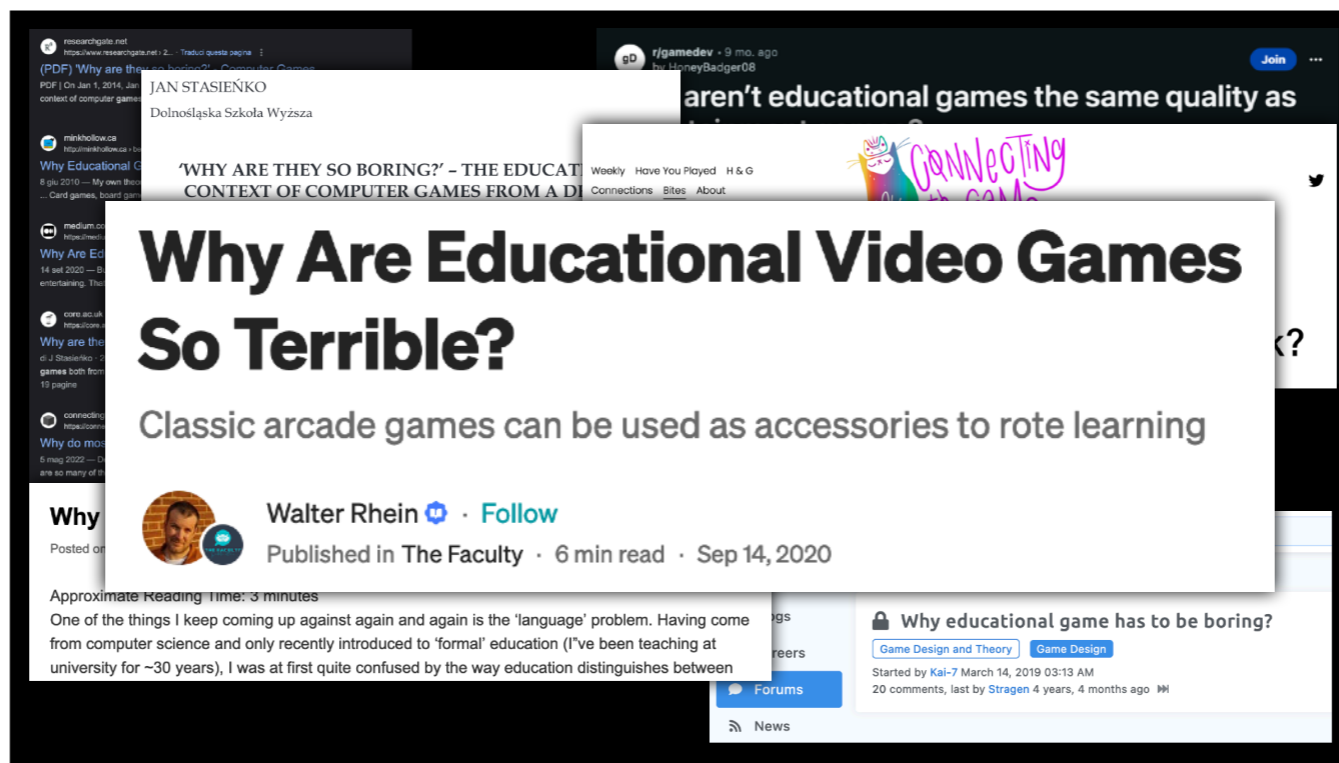
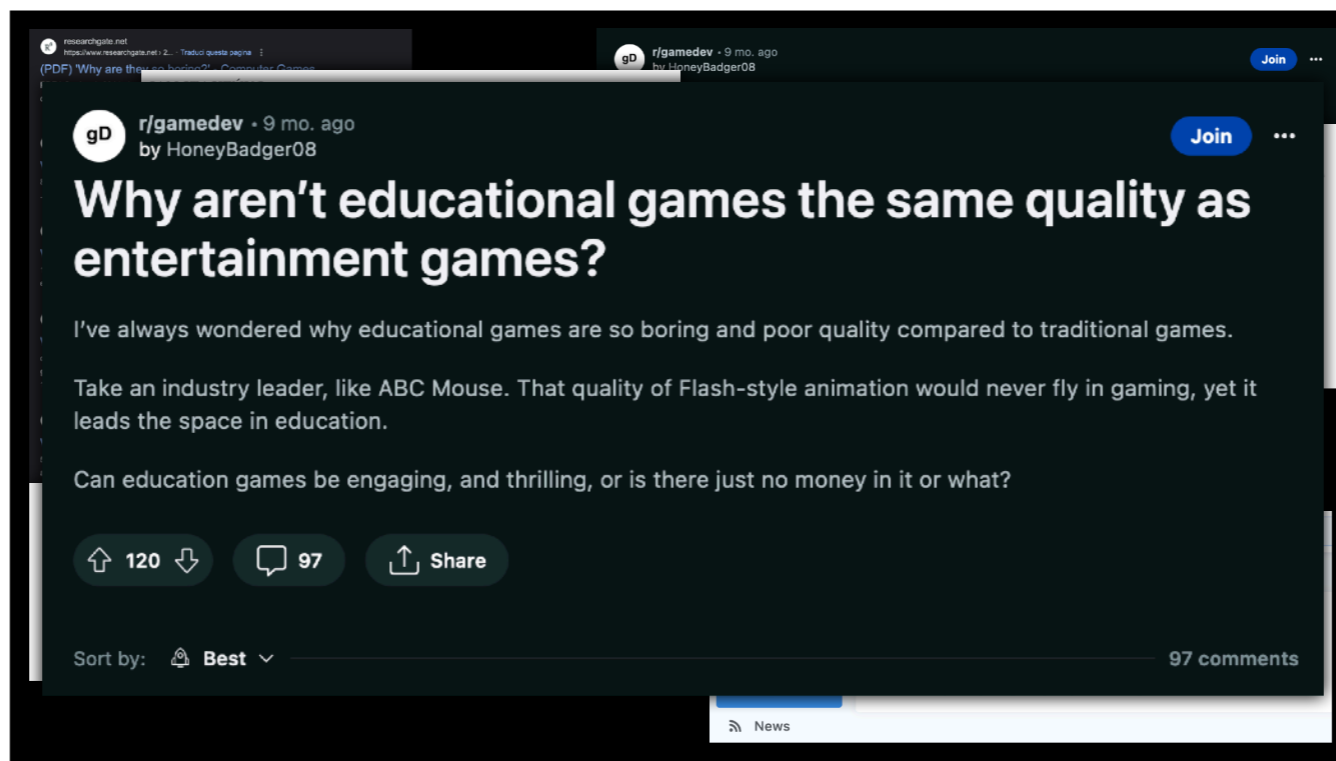🔒 Why educational game has to be boring?

Game Design and Theory   Game Design

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BUT I think

r/gamedev · 9 mo. ago
by HoneyBadger08

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Why aren't educational games the same quality as entertainment games?

I've always wondered why educational games are so boring and poor quality compared to traditional games.

Take an industry leader, like ABC Mouse. That quality of Flash-style animation would never fly in gaming, yet it leads the space in education.

Can education games be engaging, and thrilling, or is there just no money in it or what?

⬆ 120 ⬇   💬 97   ⬆ Share

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HoneyBadger08 here is asking the right question.

WHY AREN'T EDUCATIONAL GAMES THE SAME QUALITY AS ENTERTAINMENT GAMES?

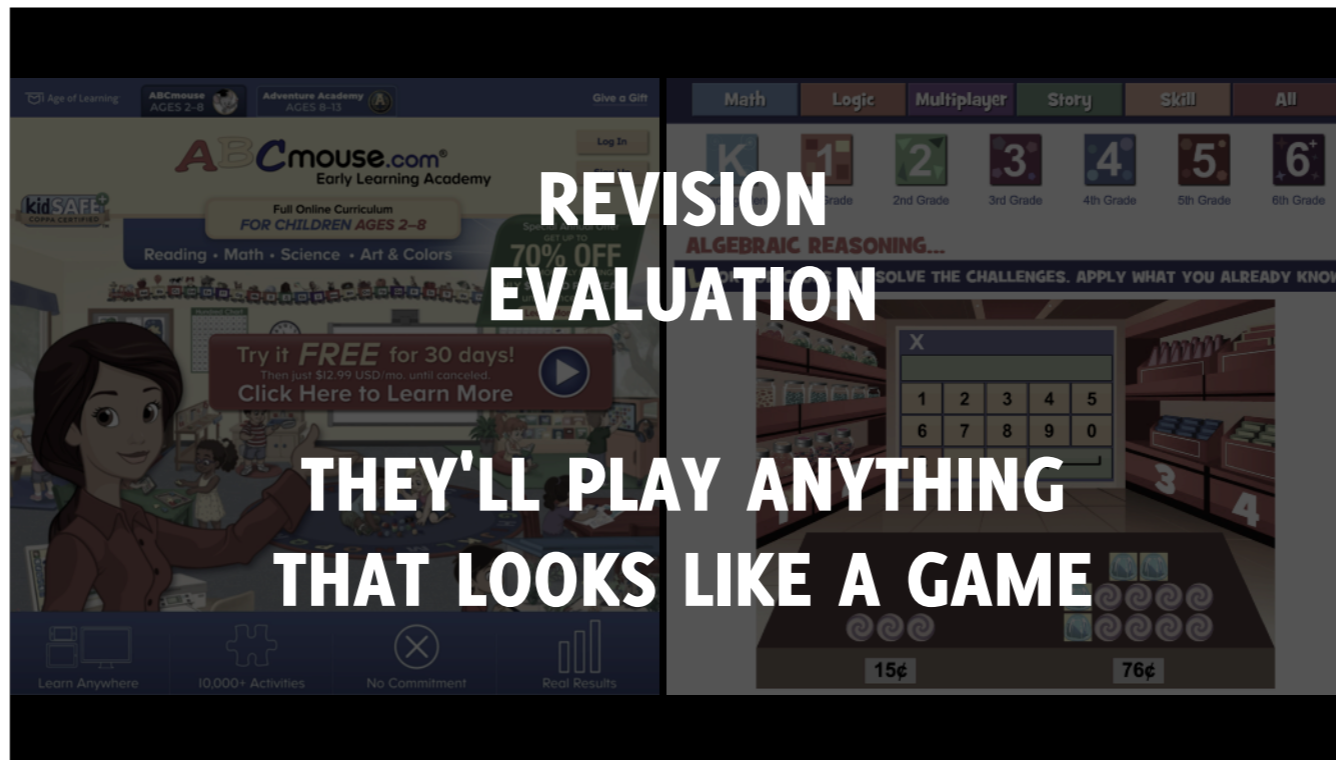There are a number of causes, chiefly

MAKING GAMES IS HARD

Making games is hard. This sounds obvious, but it's true.

If we go back to this kind of games, these are games made **by teachers** or **for teachers** with basically two requirements

- revision

🔴 evaluation

- and one assumption: kids love video games so 🔴 they'll play anything that looks like a video game

which is just not the case. But I won't blame teachers, they have a hard enough job, anything that makes it easier, right?

But of course there are also more specific reasons.

Lack of expertise

Conflicting requirements

Financial incentives

(fear of) Stigma

- There may be a **lack of expertise**: educators that aren't game designers, game designers that aren't educators
- We have **conflicting requirements** – for example when the educational content needs to be as clear as possible and that may get in the way of the gaming experience, and the engagement and entertainment values
- It's **hard to get funding and sales**. However, the EU is actively funding the European video gaming industry and also has a digital strategy that puts education front and center. Not very often that our goals align so well with those of a funding body, so might as well get a piece of the action
- And last but not least, there's **stigma** around video games used as educational interventions, video games are kids toys, right? Which takes us to…

Serious Games

Serious Games, and all the related ontological undergrowth. We all know everything that we need to know on the topic so I'm just going to focus on a **small but crucial aspect**.

At some point we developed this strange idea that games that aim to educate and instruct should be called "serious", and…

Serious Games*

* games that have a purpose
other than pure entertainment

… by and large, that's OK. Serious games are just **games** that have a purpose **other** than pure entertainment.

Serious games have become more and more popular in professional spaces, where instruction and training is necessary, and some times it feels like the instructional aspect has taken over the field.

The label "serious" has slowly grown into the idea that education and training is serious business, not funny toys for children — I'm simplifying here, but stay with me — and so
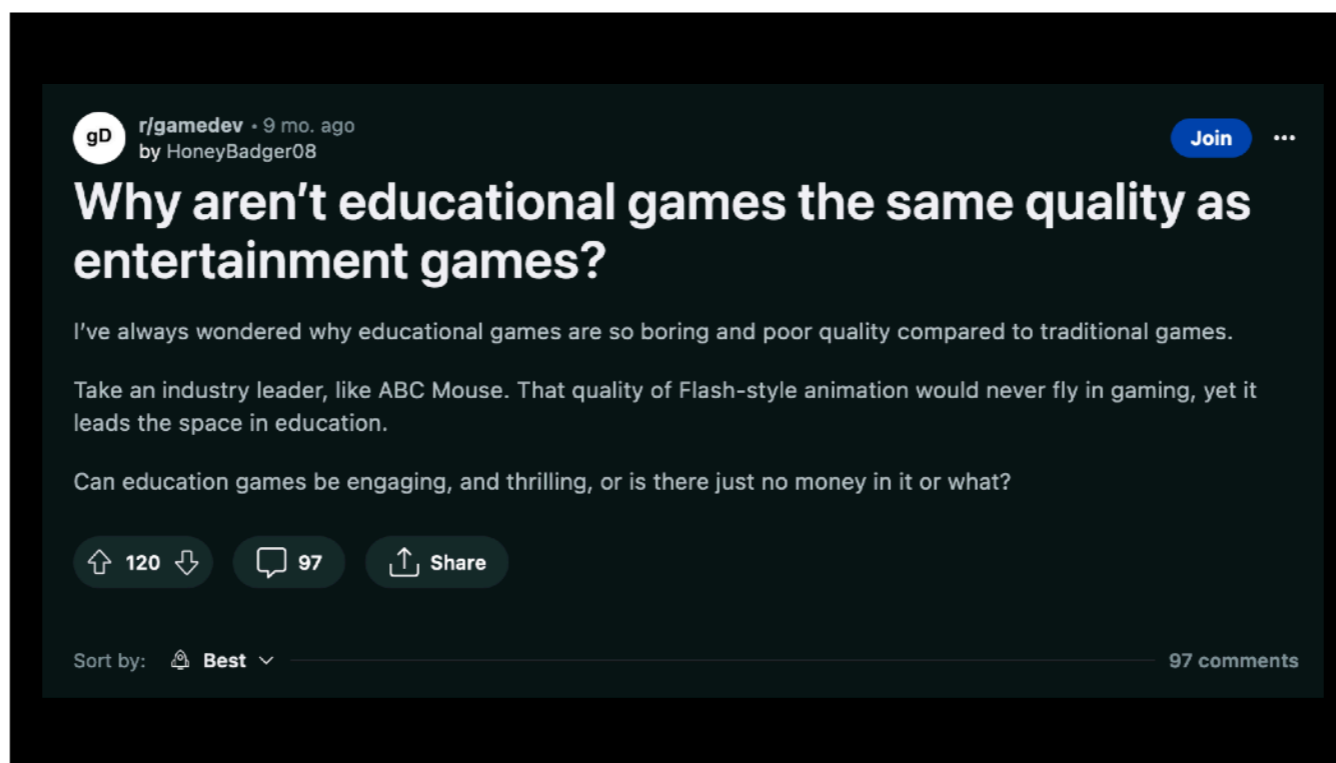
So, to make positive use on the EU's funding of the video games industry, as well as to action some of the EU's digital strategy, and at the same time to address HoneyBadger08's question here, we launched a research project

EduGames
Play to Learn

Funded by the European Union
HORIZON-MSCA-2021-PF-01
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https://edugames.andreafranceschini.org/

to bring together the expertise of game designers and developers, educators, and education and game researchers, to hopefully help create educational video games that are the same quality as entertainment video games — and as a proof of concept, we are focusing on the theme of disinformation, which happens to be central to the European Union's digital strategy.

I'll bring this slide back, I promise.

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What can you learn playing video games?

How do you make an educational game fun to play?
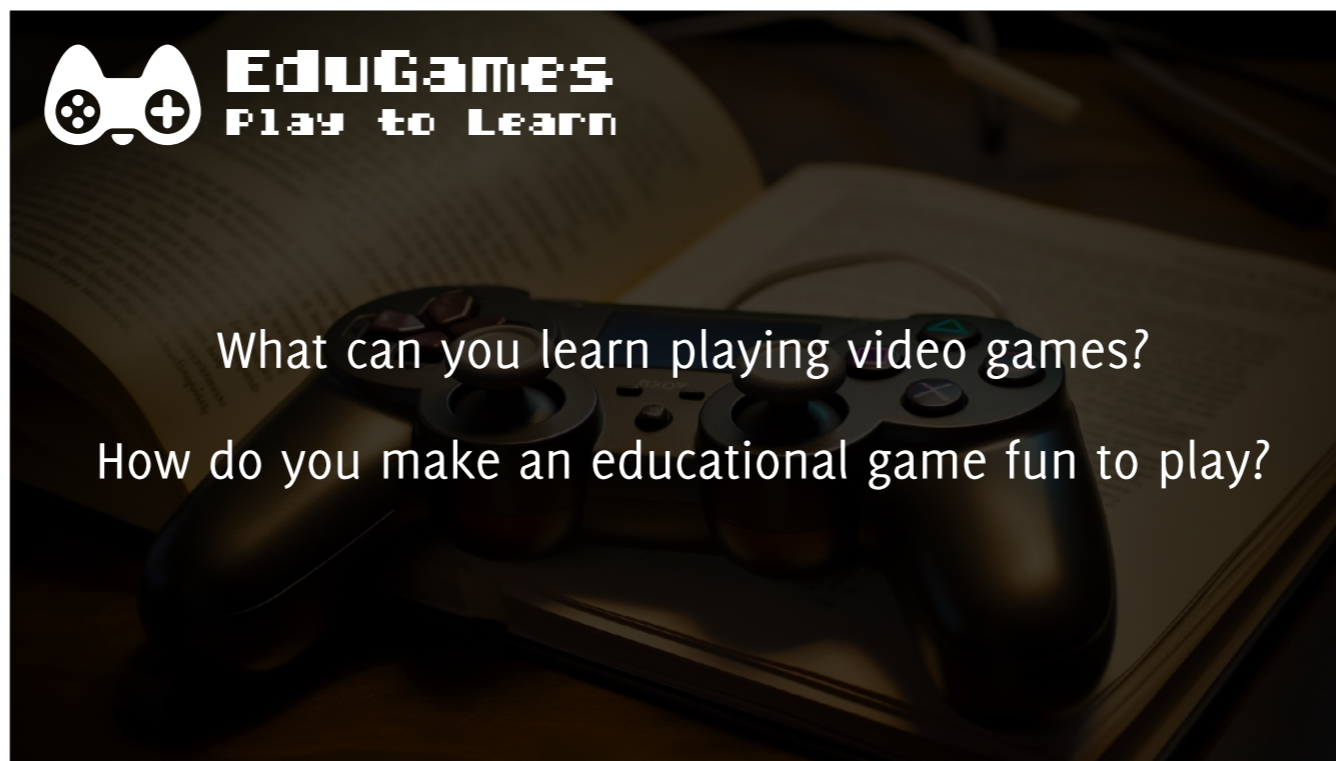
In the first few months, we've engaged in conversations with players and educators around two main areas:

- what do they think one can learn playing video games
- what do they think would make for engaging and entertaining educational video games — like, what's your ideal of a fun educational video game, if you could make it

EduGames
Play to Learn

What can you learn playing video games?

Players

Facts, notions, decision making, problem solving, management, languages

Educators

Cooperation, conflict management, skills through gameplay, self-improvement

As expected, players and educators have different opinions (and wishes) of what can be learned.

Players are more focused on lower level, practical skills
Educators focus more on higher level, developmental issues

Both agree that skills are something that can be learned

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Play to Learn
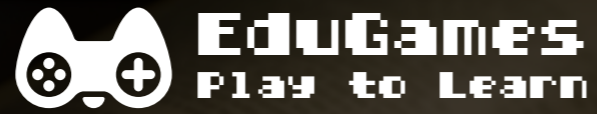
How do you make an educational game fun to play?

Players

Story
Immersion
Interesting mechanics

Educators

Role-playing
Content through gameplay
Story

As for how to make edugames fun to play, again, different level of focus, but story, role-playing, and immersion are something both groups can agree on.

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andrea.franceschini@dei.unipd.it

These are very preliminary results. We'd like to move outside the classroom and into lifelong learning, so we need to consider different paradigms, different demographics, different gaming preferences, and so on. It's a complex job.
We are moving on to organize workshops with educators as a first step, and bring in game designers and developers following that, hoping to see some synergy between these two groups and gather more insight. If you want to be involved, please get in touch!

This is all the time I have, there would be a lot more to talk about and I'll be here all week so catch me around!
Meanwhile, if you have been, thanks for listening.