

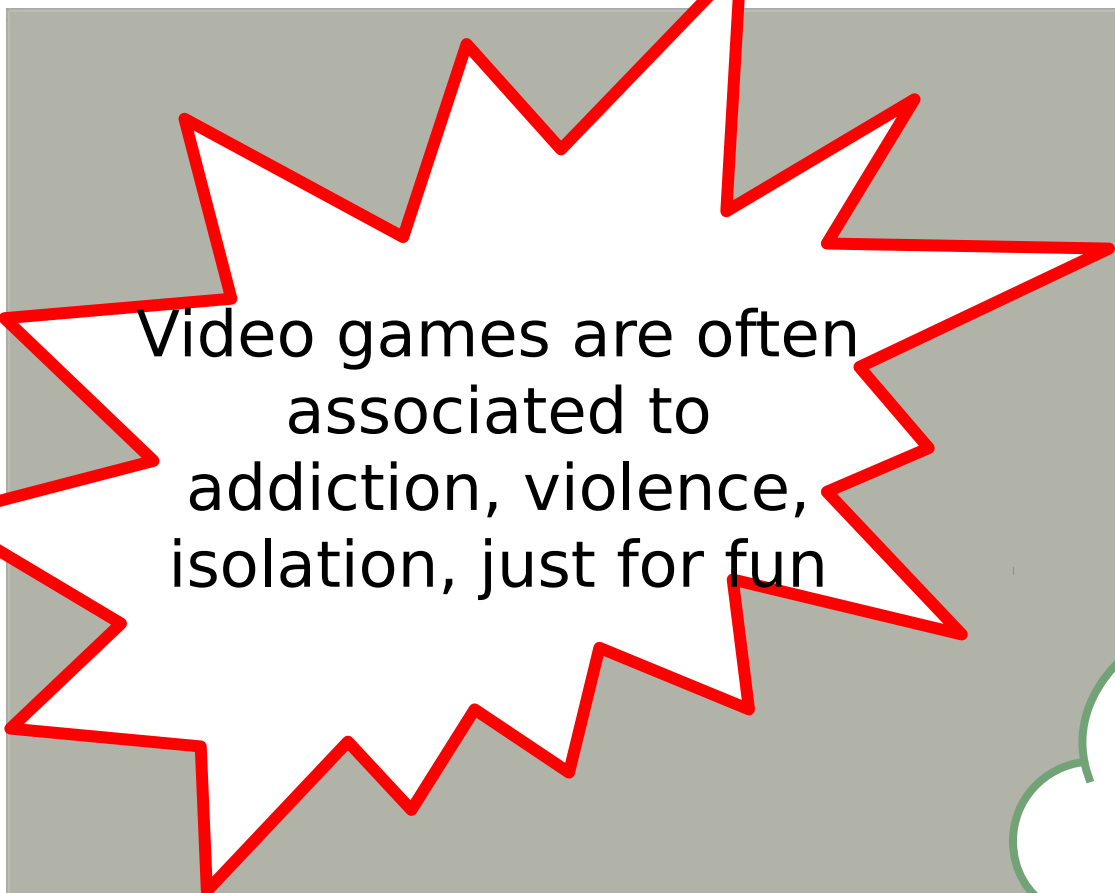
Video games:

**how they can promote
learning in informal
contexts**

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Video games are often
associated to
addiction, violence,
isolation, just for fun



(Video) games require learning

If you want to play...

you have to learn...

Chess

to move the pawns

Soccer

to kick the ball
team work

Age of Empires

Players learn what is necessary to play the game

to make strategies,
to manage resources

Games offer

Complex and ill-defined problems

Situated and meaningful knowledge

Opportunities for practice and manipulation

Different ways to reach a goal

Active and direct experience

Failure as source of learning

Reversible outcomes

When video gaming, player are required to

Develop problem solving skills

- Collect information, make a plan, carry it out, evaluate results and collect again...

Be creative

Build understanding in a context

Be active, participate in the experience

Be in control of processes and actions

Combine information in different formats (images, sound, texts, tactile/kinesthetic)

To promote these processes, video games should

Offer **meaningful** experience to the player

Have goals and rules that **challenge** the player (cognitive and/or operation efforts)

Contextualize information in the

Some examples...

Stop Disasters Game



- Simulation game (UN) to give information on how to reduce the impact of natural disasters.
- Game requires the player to:
 - Use strategic and critical thinking
 - Manage resources
 - Skills to analyze, evaluate and create knowledge
- **(+)**: Contextualizes knowledge cognitive challenge, agency, and mastery.
- **(-)**: Reward system -> Risk: frustration, boredom, getting lost in the game

LEGO Star Wars II



- Action/adventure game, no educational goal
- Game requires the player to:
 - Move fast, psychomotor memory and coordination
 - Explore, analyze situations
 - Figure out what to do in different scenarios, how to activate mechanisms, use arms, characters, etc.
- (+): Reward, customization, and sense of mastery! Cognitive and operative challenge, agency, curiosity.
- (-): Control-> Risk: player may be annoyed in some parts.

The learning possibilities in video games go beyond the gaming activity

World of Warcraft



- Games generate communities
- Players discuss game related topics in online forums

I think that using the spell at 80% will affect the wizard

Did you consider adding flay?

I did, but it didn't work. Got dmg+

No way! I'll lose my mana abilities!

- Forums allow players to engage in social construction of knowledge (Steinkhueler & Duncan, 2008)
 - Knowledge sharing
 - Shared vocabulary
 - Shared practices

Skills necessary to play video games are those desirable and required in formal learning contexts

Formal

Informal

Fun

Learning

Virtual

Real

Individual

P2P



Thank you

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