

CÁTEDRA SANTANDER · UA  
**TRANSFORMACIÓN  
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# Subliminal learning. What do games teach us?

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# learning and video games

Playing is inherent to human beings  
and the game is a  
driving element of mental development,  
it improves learning and arouses curiosity,  
so the games are a great teaching tool

# types of tutorials

- ✓ The **direct tutorials** are those that use pop-up windows with text and images to explain in detail what actions players can take.
- ✓ The **organic tutorials** integrate the rules in a specific level so that the player can learn the mechanics in a more natural fashion.

# organic tutorials

*organic tutorials, non-tutorials,  
integrated tutorials or invisible tutorials*

these tutorials are so well designed that  
they are completely merged with the level  
and flow of the game

# subliminal learning

formal or informal learning that occurs without the conscious attention of the individual to such learning

# analysis of level design in video games

Initial set: 74 video games (14 from our experience + 60 recommended in social networks)

Filtered set: 8 video games selected for analysis:

- *Super Mario Bros.* (Nintendo, 1985)
- *Mega Man X* (Capcom, 1993).
- *Super Metroid* (Nintendo, 1994).
- *Half-Life 2* (Valve Corporation, 2004).
- *BioShock* (2K Games, 2007).
- *Portal* (Valve Corporation, 2007).
- *Dark Souls* (From Software, 2011).
- *Journey* (ThatGameCompany, 2012).

# analysis elements of organic tutorials

The elements to be studied in this analysis of the initial levels of video games are:

1. Guidance and direct navigation.
2. Guidance and indirect navigation.
3. Teach through contextual practice.
4. Antepiece, Setpiece and Conveyance.
5. Teaching through failing.
6. Teaching through accident.
7. Safe areas.
8. Short iteration cycles.
9. The flow.
10. Reward the observant player.

# comparative analysis of organic tutorials

Main features of *Super Mario Bros.* and *Dark Souls*

	<i>Super Mario Bros.</i>	<i>Dark Souls</i>
Genre	Platforms	Action-Role
View	2D	3D
Year	1985	2011
PEGI	+3	+16
Actions	3	12



# comparative analysis of organic tutorials

## Guidance and direct navigation



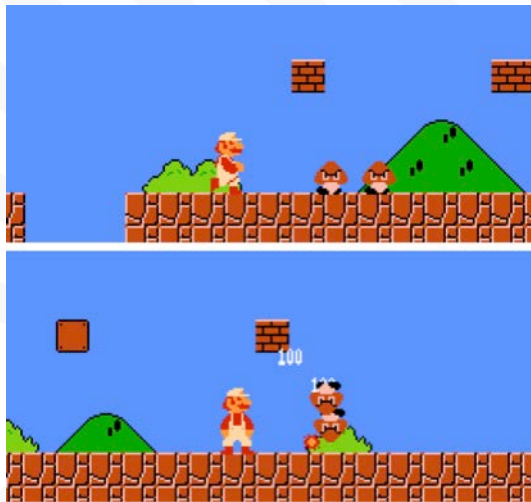
# comparative analysis of organic tutorials

## Guidance and indirect navigation



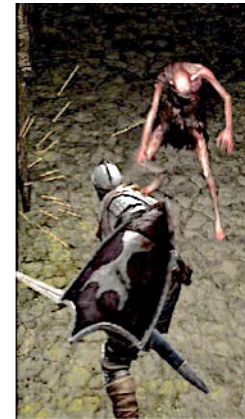
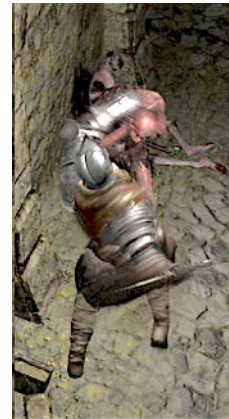
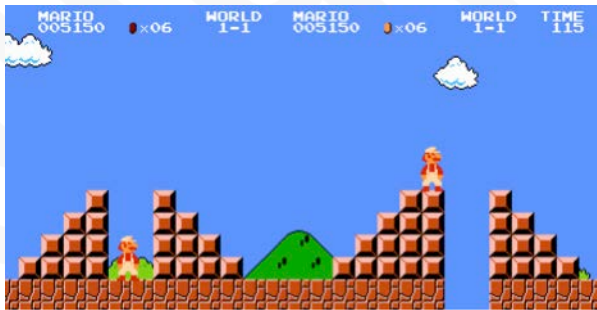
# comparative analysis of organic tutorials

Teach through contextual practice



# comparative analysis of organic tutorials

## Antepiece, Setpiece and Conveyance



# comparative analysis of organic tutorials

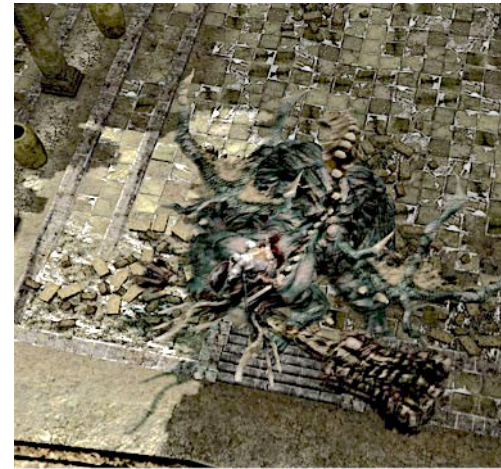
Teaching through failing





# comparative analysis of organic tutorials

Teaching through accident



# comparative analysis of organic tutorials

Safe areas



# comparative analysis of organic tutorials

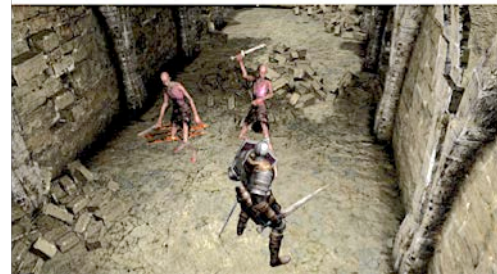
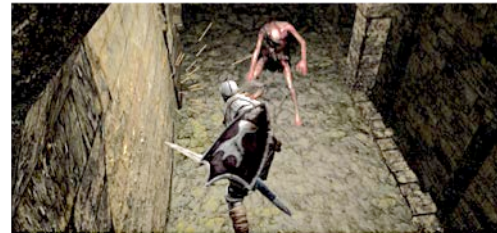
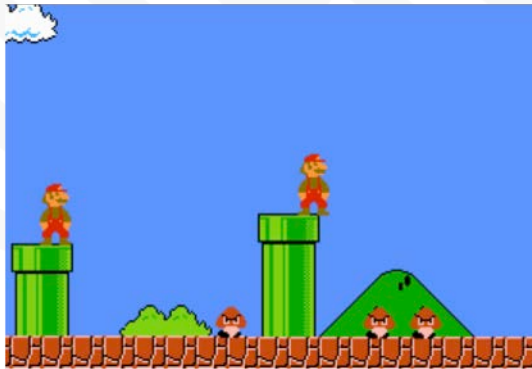
Short iteration cycles





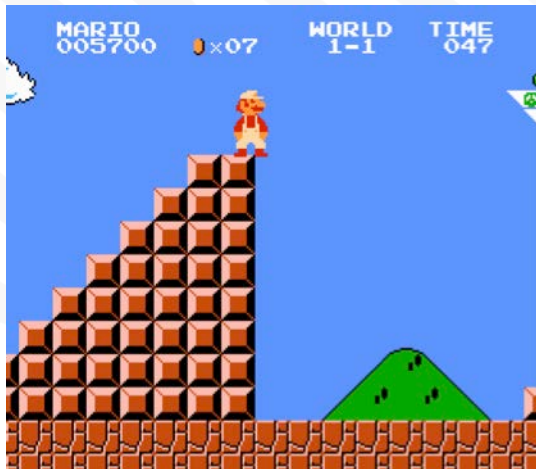
# comparative analysis of organic tutorials

## The flow



# comparative analysis of organic tutorials

Reward the observant player



# design guide for organic tutorials

Get a subliminal guidance for the player, by:

- Direct guidance
- Indirect guidance

# design guide for organic tutorials

Get the indirect teaching of the player, by:

- Contextual practice
- The use of antepieces and setpieces
- The use of failure
- The use of accidental events

# design guide for organic tutorials

Do not frustrate the player, by:

- The use of safe areas
- Short iteration cycles
- Maintain the flow of the game
- The use of the reward for being observant

# conclusions

- Tutorials integrated in the beginning of the video game.
- Tutorial organic: indirectly teach the player while he plays the tutorial level.
- Eight video games have been analysed as representatives of a broad set of generations, genres and technologies.

# conclusions

- Three fundamental objectives of a well-designed organic tutorial have been identified:
  - subliminal guidance for the player
  - indirect teaching
  - not to frustrate the player
- Ten techniques of level design and gameplay are established:
  - direct guidance, indirect guidance, contextual practice, the use of antepieces and setpieces, failure management, the use of accidental events, safe areas, short iteration cycles, flow channel and the use of the reward for being observant

# conclusions

guide for organic tutorials

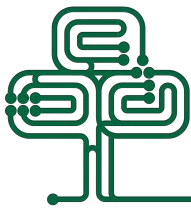
a list of principles or patterns  
to implement organic tutorials,  
aimed at developers interested in designing  
a good organic tutorial for their video game



# further work

Transfer this guide to the design of interactive educational materials

The design of organic tutorials in the world of education opens a door to natural and fluid learning, what we can call **subliminal learning**



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