Lego 3D as a tool for planning with pupils

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Leg Godt:
play well
Who am I?

BRUNO DE ANDRADE

• Bachelor degree in Architecture and Urbanism (UFES/2012)
  Emphasis in Cultural Heritage
  • “A heritage route at the river Santa Maria da Vitória: Instrument of conservation, valorization, requalification and transformation of the Territorial Heritage”.

• Master degree in Architecture and Urbanism (UFES/2015)
  Emphasis in Cultural Heritage, Geoinformation Technology and Participatory Planning
  • “Representing the Territorial Heritage with Geoinformation Technology. Experiment in Santa Leopoldina/ Espírito Santo/ Brazil”.

• PhD Candidate in Architecture and Urbanism (UFMG/…)
  Emphasis in Participatory Planning
  PhD Visiting Researcher at the MediaLab, Faculty of Informatics, Technische Universität Wien
  • “Geoprocessing and Participatory democracy: Observatory of Territorialist Approach. Experiment in heritage sites in Espírito Santo/ Brazil”
Lego 3D to design a new square

• **Lego 3D** is a digital gaming platform to building structures through the classical piece-by-piece concept, which was tested using concepts and techniques of *child-computer interaction* in Tirol in Brazil. *A Tirol in Brazil?...*

• The experiment was part of a series of studies of a **PhD Research** on “Geogames and Participatory Planning” with the aim to **enhance creativity and a practical-reflexive learning in children**.

• It was led in a **two-day meeting** and followed by a hybrid approach both physically geo-oriented for generating ludic ideas, and digitally by using the Lego3D platform to **building a new square for the town**.

• The results are impressive regarding the protagonist role that children can play on identifying the need of their territory and designing it. *Ex. Italy, Tuscany, Structural Plan, Dicomano...*
TIROL (Brazil)

1898
Motivation – idea – method – experiment

• Urban Planning > Problem in Participatory processes > Focus: Children

• Hypothesis:
  • Towards a child-friendly city. (UNICEF) ‘protection and well-being of children’
  • Child-computer interaction (Juan Pablo HOURCADE) ‘study of the design, evaluation, and implementation of interactive computer systems for children, and the wider impact of technology on children and society.’

• Approach: Participatory > Games
  • Serious Games, Geogames, Urban Games, Heritage Games... But why Games? ‘Arguments for...’
    • POPLIN, Alenka... ‘...Geogames, urban planning, playful way to engage and obtain a more satisfactory participation...’

Hybrid empirical method:
• Exploratory game (physical) + Digital game (virtual)
• ‘... Drawing first, real scale, real world, Project... Than only my notebook, never played lego 3d, no internet... Incredible facility to learn, one taught the next player... Kind of collaborative’
What we have done...
(master thesis 2014/15)
Objective – results

• Two phases in two days
  • 1st: Exploration of the space and design on the ground the playground/square ‘...The objective was to design a playground, and than they were designing a square... Why? Lack of public spaces, lack of interaction’

• Two groups:
  • Kindergarden 4 to 6
  • Elementary school 6 to 10

• Drawing a playground/square for the town:
  ‘Previously they had a small one...’
Diana Faria SILLER: horta
Wagner João SCHULTZ: Gengibre
Yslam da Silva FLEGLER: Café
Erica de Fátima ENDRINGER: Banana, feijão e milho
Gedimar LICHTENHELD Rosa: Horta
Enderson STEINER GIESEN e Elemar Clementino GIESEN Neto: Banana
Kaua Ponath FLEGLER e Sthefany Ponath FLEGLER: Inhame, gengibre e feijão
Carlos Henrique WALCHER: horta
Ana Paula SILLER Elias: horta
Lucimara Carvalho Muniz NAGEL: laranja, café e horta
Isabella Moura KEMPIN: banana
Lucas Fracalossi SAUTHIER: uva
Meu fundo do note eu e eles
Example – reference – *could be like...*
Final considerations and next steps...

• The children are open to work both exploring the territory and playing digitally. But on a digital game the engagement and excitement were more visible due to the fact that the majority are not used to play video-games.

• Incredible facility to fastly learn how to play the game, to choose the blocks, move the mouse, use the buttons and design on a virtual space, a representation of the actual physical space.

• The use of digital games can be a powerful tool to engage children into thinking, learning and designing the city. Also it might be powerful too with adults (next steps), and what about the elders (next steps?)

• NEXT STEPS: Improve the methodology steps: more preparation and teaching how the game works, more computers, more time/ meetings, more tools for teaching/learning about urban space/ use of space / ...

• NEXT STEPS: Could it be useful to propose an Exchange of evaluation of the projects of the brazilian Tirol and the children in Innsbruck, for ex.? Rebuild bridges (or really build one?), create connections, integration, as knowledge about other spaces other than their own town...

• What about other games? Minecraft, Urban Games (physical or digital)...)
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