



**HCU**

HafenCity Universität  
Hamburg

# **GAMES IN URBAN PLANNING**

## **A comparative study**

**B.Reinart M. Sc. | Prof. Dr.-Ing. A.Poplin**

# SERIOUS GAMES

- Games can enable players to make decisions in an experimental, game-based environment (Sanoff)
- They can show abstract planning processes in a playful way
- **Clark C. Abt** defines serious games as: *“games which achieve an explicit, cautious, educational function and whose major feature is not just entertainment. That does not mean games should not be enjoyable; they can be used to impart knowledge in a playful way”* (Abt 1972, page 5 ff.).



# RESEARCH QUESTION

Are there actually games which can entertain people and simultaneously animate them to participate in real planning processes as well as facilitate learning about the current process in a playful way?



# METHODOLOGY

- The game industry is multifaceted → focus on cities is very popular
- The games industry offers a mass on commercial games which focus on urban planning aspects
- New games will be evolved soon → comparative study is a kind of snap-shot
- We distinguished three categories of games:

**non-digital/traditional**

**digital**

**pervasive games**



# DIFFERENT GROUPS OF GAMES FOCUSED ON CITIES

- **Non-digital/traditional games: board- and card games**
- Broken Cities, CLUG, Ginkgopolis, Masterplan, Neue Heimat, Pop-up Pest, Stadtspieler and The Harbour Game



Figure 1: Stadtspieler event with TRENDBÜRO Hamburg 2011 and the game board. [www.stadtspieler.com](http://www.stadtspieler.com)

# DIFFERENT GROUPS OF GAMES FOCUSED ON CITIES

- **Digital games: PC-games**
- Anno, City One, Civilisation, Community PlanIt, Green Sight City, Minecraft/Block by block, Plasticity, Securing Sydney's Urban Planning, SimCity and Surfing Global Change



Figure 2: Block by block Playground Ugundu. Westerberg 2013.



# DIFFERENT GROUPS OF GAMES FOCUSED ON CITIES

- **Pervasive games:  
games in urban environment**
- Mogi, PacManhattan and REXplorer

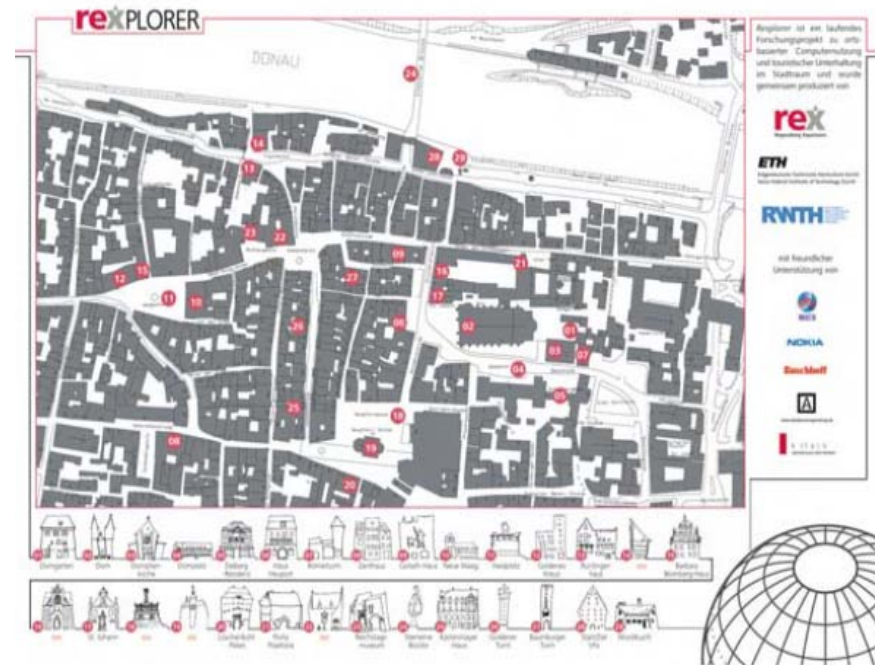


Figure 3: REXplorer map and technological equipment. Ballagas; Walz 2007, page 367.

# COMPARATIVE STUDY

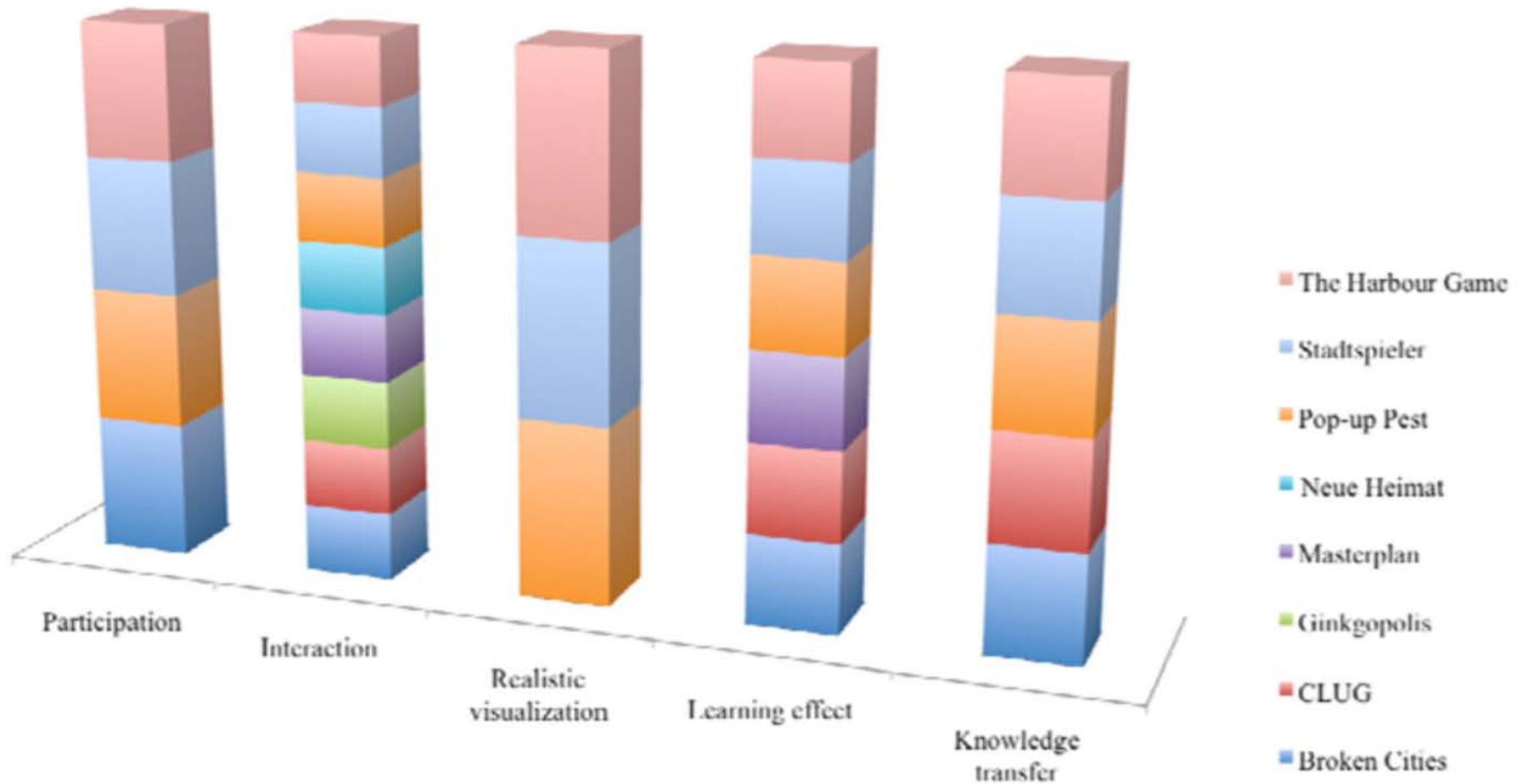
## Criteria for comparison:

- Participation
- Interaction
- Realistic visualization
- Learning effect
- Knowledge transfer

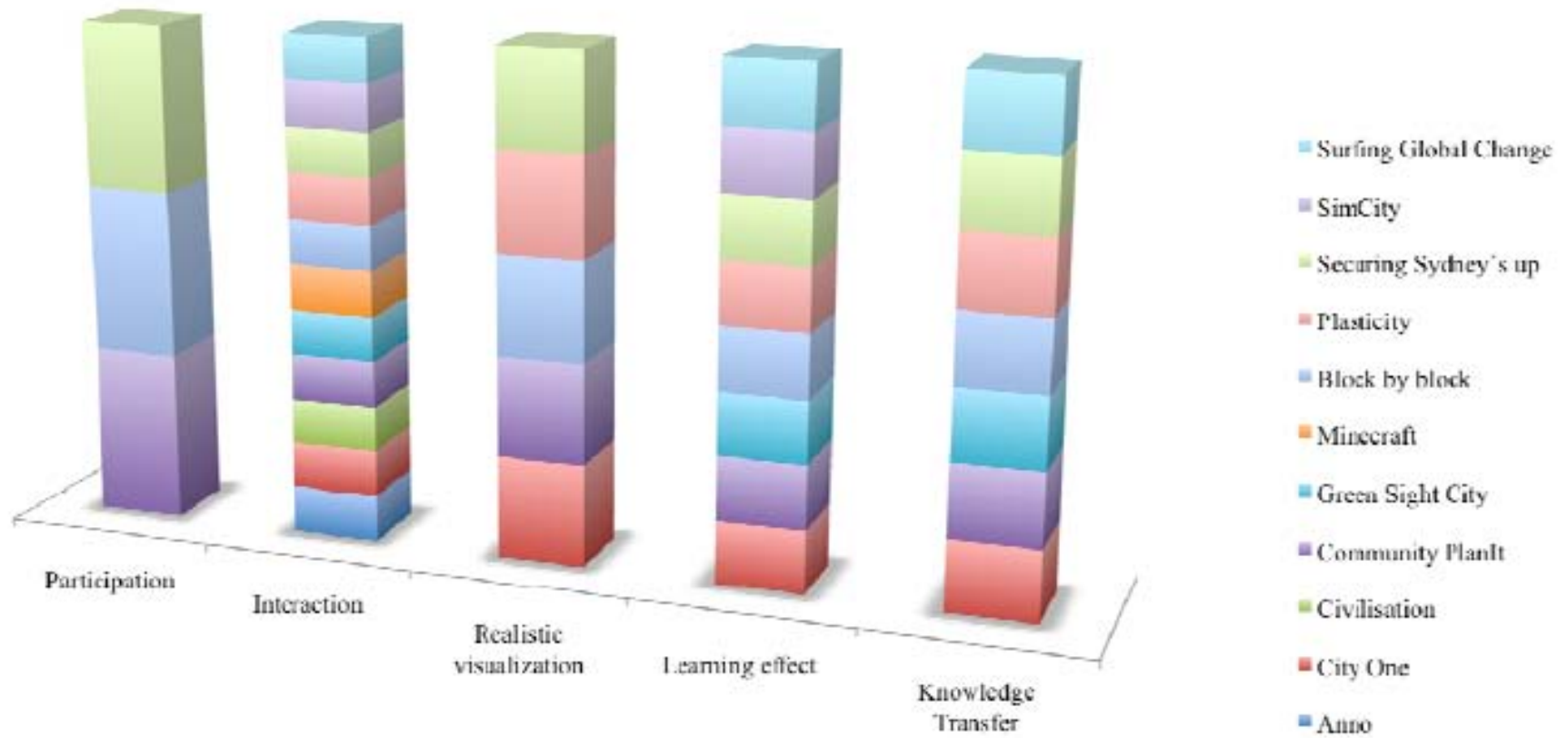




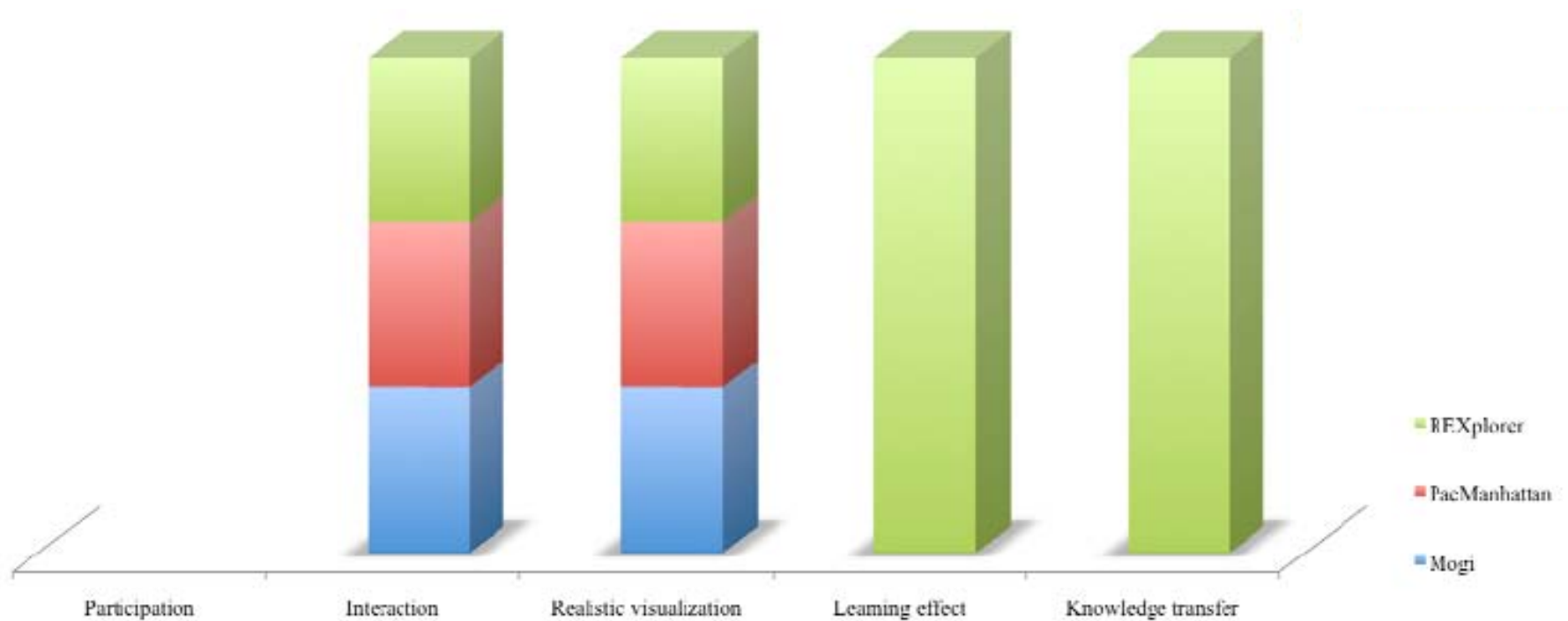
# RESULTS OF THE COMPARISON – BOARD- AND CARD GAMES



# RESULTS OF THE COMPARISON PC-GAMES



# RESULTS OF THE COMPARISON GAMES IN URBAN ENVIRONMENT



# DISCUSSION

- Match our research question:

**Are there actually games which can entertain people and simultaneously animate them to participate in real planning processes as well as facilitate learning about the current process in a playful way?**

Block by block

Community PlanIt

Pop-up Pest

Stadtspieler

The Harbour Game



# DISCUSSION

- **Block by block:** used for young residents of problematical areas to take part in planning processes.
- **Community PlanIt:** online game platform, was produced as a local participation game.
- **Pop-up Pest:** educational game especially made for children. According to their wishes, they could design the city and make fictive urban plans.
- **Stadtspieler:** used in civic participation processes. The purpose of the game is to create a high quality living environment.
- **The Harbour Game:** a mixed reality game, it aims to promote the development of the harbor in Aarhus.



# DISCUSSION

Positive Aspects	Critiques
Five games were used in urban planning processes	Participation (7) and realistic visualization (11) is low → Less than half of all games
All games are designed for interactions and possible learning effects are high	Especially games in urban environment (group 3) do not offer more than just entertainment → 3 games
Minecraft was not developed for urban planning processes → Block by block is used for urban planning → Implementation in practice	There are many games with urban planning topics but they are not sufficiently used for integrating people in real-world planning processes
Only eight games enable pure entertainment	



# CONCLUSIONS

- Games can support a playful participation and interaction
- GeoGames Lab [www.geogameslab.de](http://www.geogameslab.de)
- AGILE Workshop in Spain
- Collaboration with International Institute of Information Technology Hyderabad, India







# THANK YOU!

**Prof.Dr.-Ing. Alenka Poplin |  
Bärbel Reinart M. Sc.**

HafenCity University Hamburg  
Computer-based Methods in Urban and Regional  
Planning

[alenka.poplin@hcu-hamburg.de](mailto:alenka.poplin@hcu-hamburg.de)

[baerbel.reinart@hcu-hamburg.de](mailto:baerbel.reinart@hcu-hamburg.de)

[www.hcu-hamburg.de](http://www.hcu-hamburg.de)

[www.geogameslab.de](http://www.geogameslab.de)