

Playful learning and design futures to enhance urban civic competences through a card game and Minecraft

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EXTENDED ABSTRACT

This paper presents *Ciutat i Joc*, an action-research project funded by Barcelona's City Council, to build a pedagogical toolkit about urban design and civic participation based on playful learning (addition of playfulness to an educational context) and design futures (design solutions to actual challenges through speculative storytelling). In order to design a toolkit that teachers can use in their own educational environment, we present the methodological design and preliminary results of four co-creation workshops developed in four schools (La Salle Gràcia, IE Eixample, St Peter's School and Escola Tibidabo) of different neighborhoods of Barcelona (Gràcia, Eixample, Sarrià, Sant Andreu) during the fall of 2022, combining an analog card game and *Minecraft* (Mojang, 2011).

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Civic engagement and virtual environments like *Second Life* (Linden Lab, 2003) and *Minecraft* for urban planning have already been explored as a way to engage citizens in educational settings (Gordon & Koo, 2008; Foth et al., 2009) and among public space advocates (Westerberg & Heland, 2015). *Ciutat i Joc* aims at gaining deeper insight into the kind of competences playful urban co-design workshops can foster among teenage students. Additionally, different local governments have recently been developing actions to ensure biodiverse cities, sustainable mobility and a feminist approach for urban design. Consequently, *Ciutat i Joc* includes three dimensions into the exploration of civic engagement: gender perspective, interculturality and ecology. Specifically, the goals of the project are:

- Studying the pedagogical possibilities of co-creation workshops focused on playfulness and design futures to address civic urban challenges.
- Enhancing civic urban competencies, from the point of view of the right to the city (Lefebvre & Nicholson-Smith, 1991) and the gender, interculturality and sustainability matters.
- Fostering transversal competencies, such as critical thinking, negotiation, teamwork, and STEAM skills.
- Elaborating an open toolkit to serve as an educational proposal in formal civic education environments to generate this type of debates.

To achieve these objectives, we designed a workshop to address the suitability of the materials and techniques implemented, the learning tasks and social interactions that the students engaged with, and how the gender, intercultural and ecological perspectives emerged.

To design the workshops we carried out a literature review on gender, interculturality and sustainability issues in the context of urban design (Sève et al., 2021), the notion of playfulness and its pedagogical basis (Sicart, 2014; Flanagan, 2015; Johnston et al., 2022), and co-creation methodologies using games (Acharya & Wardrip-Fruin, 2019; Myers, 2019). Also, we designed a card game and promoted the implementation of urban spaces on *Minecraft* (Figure 1) that recreated the areas we would work on.



Figure 1: Recreation of an actual neighbourhood through *Minecraft*.

The card game we designed is based both on “The Thing from the Future” game (Candy, 2018) and previous experiences in playful co-creation methodologies (Roig et al., 2021). The goal of this tool was to spark the speculative imagination about the space and its uses. Through different kinds of cards (objects, social collectives, moods and time-horizons) participants had to imagine possible situations about urban

challenges in actual neighbourhoods, and end up selecting the best scenario (Figure 2).

The spaces and urban problems to intervene were decided in collaboration with the teachers and students of the schools participating in the project. Foresighting possible futures implies storytelling processes (Jenkins et al. , 2020; Glăveanu, 2018). Also, play works beyond amusement and enables the exploration of social issues through creative expression and conceptual thinking dynamics (Flanagan, 2009; McGonigal, 2011). Thus, the card game worked both as a scenario generator and a design method. Through play and storytelling, it promoted debate and closeness between the participants.

In order to prototype the scenarios, four maps based on real data were created in *Minecraft*¹. Each map represented a different neighbourhood. *Minecraft* allows the collaborative visualization and co-creation of environments in a playful context, opening the door to creative flexibility, and fostering communication between the roles involved in the process (Cristie & Berger, 2016; Acharya & Wardrip-Fruin, 2019).

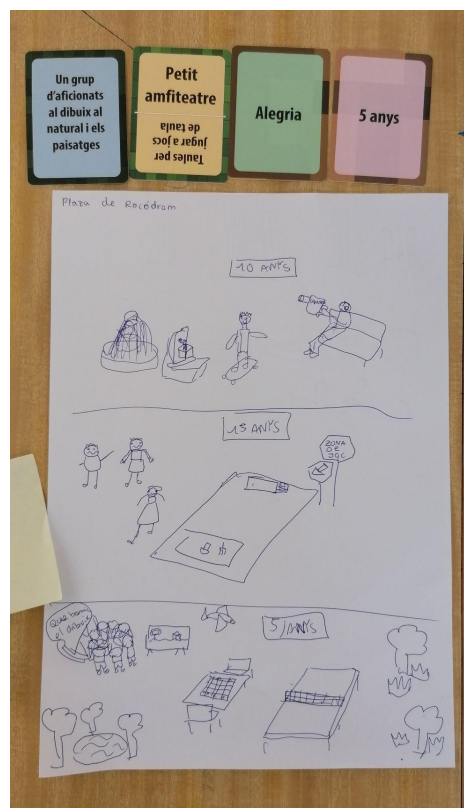


Figure 2: Card game as a tool to trigger speculative storytelling around an actual urban challenge.

The working group for every workshop was formed by four researchers, a teacher, a *Minecraft Edu* mentor and four technicians to provide support to participants. The workshop lasted four hours and had three different activities (Figure 3). First, the co-creation of a speculative setting for an urban space using the ideation card game.

¹ The *Minecraft* maps based on real neighborhoods were commissioned to Geoboxers, a company specialized in the creation of maps through GIS and geospatial data.

In the second term, the collaborative construction and visualization of the setting inside a private server in *Minecraft*, where all the students, through their personal avatar, could build and interact with their teammates within a recreated urban space of their neighbourhood. Finally, a discussion about the scenarios and the urban challenges related to the gender, intercultural and ecological perspectives. A total of 158 students, ranging from 11 to 15 years old, participated in these workshops.

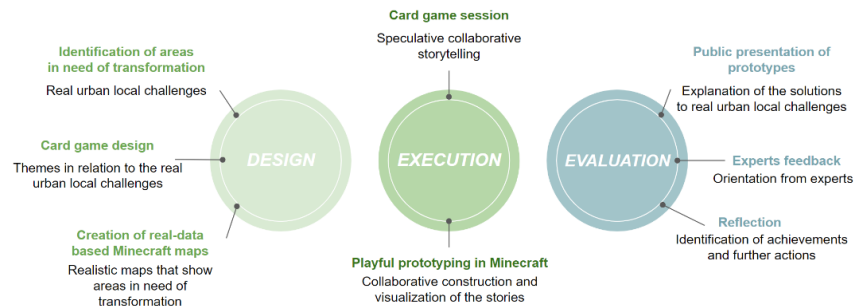


Figure 3: Workflow of the co-creation workshops carried out at *Ciutat i Joc* project.

During the workshops, the research team carried out direct observation and collected information through diaries, photographs, videos and audio recordings. The files with the constructed spaces in *Minecraft* were archived for further analysis.

The preliminary results of the project point towards the suitability of the combination of ideation techniques using a physical card game and the collective modelling of urban spaces in *Minecraft*. We identified four key aspects of our proposal: the use of neighbourhood spaces to root the process in real local problems; the focus on activities and possible uses of the public space; the emphasis on social groups as protagonists of the story; and the agency created through the simulation of real environments in *Minecraft*, that allow the students to engage and interact in the transformation.

We are currently developing an open access toolkit for high school teachers who want to replicate this methodology in their learning activities. From this experience we conclude that playfulness, co-creation and speculative storytelling provide relevant value as a creative methodology and as an effective tool to collaboratively address social challenges, as well as a way to enhance civic competencies in formal educational contexts.

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