

# Designing with Children

## Smart Schools for Smart Children

As part of her PhD research at The University Sheffield School of Architecture, architect Marta Brkovic visited self-declared sustainable schools in England, Spain and Germany, in order to work with children and teachers to learn about what worked and what didn't. She teamed up with Simeon Aranicki Primary School, a school with hopes for transformation in areas of sustainability and its pedagogical values. Marta developed a design proposal for this school, based on the findings of her previous work and on the outcomes of workshops with the Serbian children and staff.

### Motivation

As both a designer and researcher, Brkovic values the tacit experiential knowledge that people gain about their own environments and she is committed to hearing children's as well as adults' voices. While the ultimate aim was to produce a redevelopment plan for Simeon Aranicki primary school, Brkovic was very driven by the desire to also change policy in Serbia surrounding school design and school construction in order to improve children's spatial and pedagogical experiences. For this reason she set-up the NGO ARQubator during the project as vehicle to attract resources and to lobby the authorities via the resulting design proposals. Brkovic' approach is also underpinned by a belief in the pedagogical potential of a school's built environment - the school as 'third teacher'. This is reflected in the pedagogical value of the engagement tool that she designed.

### Children's involvement

Brkovic developed a special research tool to include pupils in exploring and evaluating the sustainable aspects of their schools. The tool came in the form of a board game named S'Spector: Sustainability Inspector, which was intended to offer a two way process - informative for the researcher/designer and educational for the pupils. The game was also used as a communication aid between the researcher/designer and children, inspiring and informing the design proposal for what would be the first

### What

Design proposal for the first sustainable school in Serbia

### Where

Stara Pazova, Serbia  
Barcelona, Spain  
Sheffield, United Kingdom

### Age

11-15

### Group Size

Sheffield 34, Barcelona 16, Stara Pazova 24

### Project Stage

Brief, Concept

### Children's Roles

Advocates for Change, Expert Consultants

### Timescale

October 2009–June 2012

### Partners

Marta Brković (Designer, facilitator)  
ARQubator (Facilitation)  
Architecture students (Facilitation)  
Robert`s Fund (Funder)  
Knowledge Transfer Partnership, University of Sheffield (Funder)  
Santander Research Mobility Award (Funder)  
Children from Sheffield, Barcelona and Stara Pazova (Participants)

sustainable school in Serbia. The game playing was part of informal learning in the schools visited in England, Spain and Germany, as well as Simeon Aranicki Primary School in Serbia, while in the latter a full process of design was also carried out.

All pupils from Simeon Aranicki Primary had been introduced to the concept of the project by the school staff, and were free to join in at any stage they wanted. The process took place during school time, and gained in popularity beyond the expectations of the researcher. The main role of the pupils was to inspect their school using the Sustainability Inspector game, while architecture students and researcher Marta Brkovic acted as facilitators of the process.

There were four main steps in the game: the Suspect step instructed pupils to pick from the 22 cards with 'suspected' sustainability topics; the Inspect step encouraged them to find appropriate answers in their school and support these with photographs; the Discuss step involved pupils in discussing their answers by playing the board game; and Detect step encouraged pupils to map their answers by placing the photos and corresponding comments on a provided school plan.

In this way, the pupils were encouraged to explore, discuss and document their opinion, suggest changes and improvements, while being actively involved in learning about the environmental and social sustainability of their school. The game provided a framework for experiential learning in a social context, and for a critical reflection on transformed experience, where pupils were the facilitators of the learning process. It was an opportunity for them to co-construct knowledge about sustainable school environments with their peers, architecture students and architects. The main equipment needed for playing the game included a set of game rules, a game board, game cards, counters and dice, a photo camera, photographs, a school map and some sticky notes.

## Outputs and outcomes

This project included the first participatory evaluation of a school in Serbia, followed by the first design proposal for transforming a Serbian school into a more environmentally and socially sustainable environment. Therefore the teachers, pupils, and the ARQubator members use it as a case study for informing and lobbying all relevant actors (Ministry of Education, local authorities, potential financiers, architecture schools, primary schools) so as to disseminate their knowledge, raise awareness and attract finances. The pupils in Serbia also developed an exhibition of the project outcomes, the models of the school and the design ideas, together with ARQubator, to attract funding from local authorities for the school remodelling.

Following the success of the project, the teachers from the school in Serbia organized an eco group for extra-curricula activities for pupils. Just one year after the group was established the school won the national competition for the most environmentally conscious school in Serbia. The pupils self-initiated a project to create a film on the importance of inclusion of physically impaired and developmentally challenged peers. The film won an award in the competition 'Create the world without the differences', organized by the Ministry of Education.

## Quotes

*'What...is it already over? If we could learn like this I would be coming to school on*

*Saturdays and Sundays also!* (Ivan, 12, pupil, Serbia).

*'No one pointed a finger at me and said now you answer...when I had to add something important I just said it'* (Sara, 14, pupil, England).

*'I thought that the children would be silent all the time, you know scared because of us, because they see us for the first time...and it is our job to design schools, but they were so responsive and wanted to play further'* (Sima, 23, architecture student, Serbia).

*'The game is fun, fun, fun...it is interesting and I like it because I was not sitting all the time, I was moving around and photographing'* (Angelika, 12, Spain).

*'I could give my opinion and this opinion is going to be considered and heard'* (Oriol, 13, Spain).

*'Today we decide how good the school is !'* (Mike, 14, England).

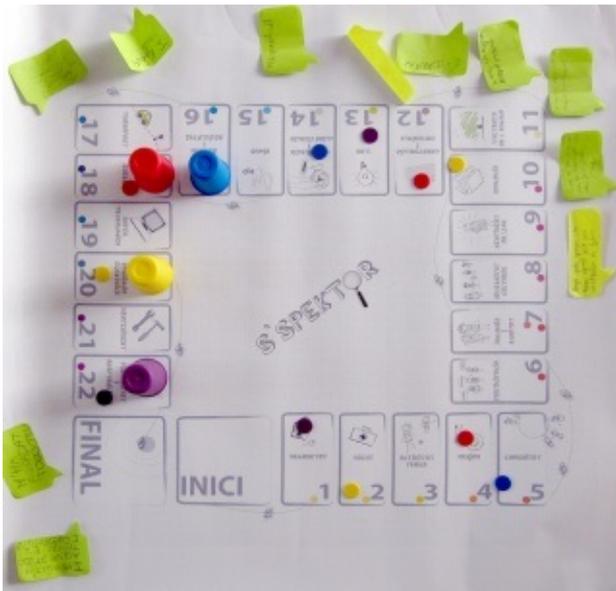
## Resources

ARQubator <http://www.facebook.com/ARQubator> (accessed 28 November 2013).

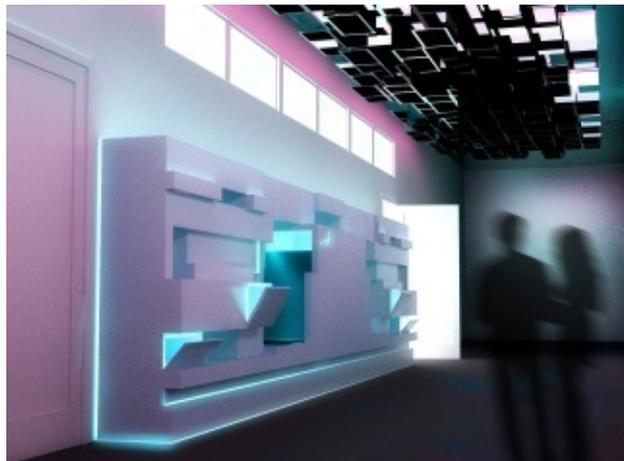
Brković M. (2013) *Sustainable Schools as the Third Teacher*. Unpublished PhD. University of Sheffield.

Brković M. and Chiles, P. (forthcoming) 'Spector – Sustainability Inspector game: teaching and learning adventure through sustainable school exploration game'.

Personal communication with Marta Brković (March 2013).



Courtesy: Marta Brković (Photographer)



Courtesy: Marta Brković



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