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Serious Games, Mental Images, and Participatory Mapping: Reflections on a Set of Enabling Tools for Capacity Building

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Abstract: Increasing complexity of societal questions requires participatory processes that engage with capable participants. We adopted Horellis’ stance on participation as not an isolated event but a constant communication between different groups that can be assured by using enabling tools. We applied the Capability Approach to frame a capacity-building process and understand how this framework can support a collective of entrepreneurs to become aware of their capabilities (and the impact of an ongoing urban renewal process on these capabilities). The Capability Approach emphasizes the personal and structural conditions that impact a person’s capability to choose—the conditions that affect the process of determining what a person values. The paper builds on a two year capacity-building process conducted in Genk, Belgium, and proposes a conceptual framework for building capacities, in which the process and outputs collide with ideas of *choice, ability, and opportunity*, notions central to the Capability Approach. The case study looks at one of the main commercial streets of the city (Vennestraat) and reflects on a set of enabling artefacts used to engage proprietors in the capacity-building process. This capacity-building process, characterized by the idea of space and capabilities, advances a critical viewpoint on issues related to participatory processes and gives practitioners a set of enabling tools to start a conversation over complex urban transformations, such as the one in Vennestraat.

Keywords: capability approach; capacity building; serious games; enabling tools; mental images

1. Introduction

Societal processes are growing increasingly more complex (e.g., climate change is not only an environmental issue but also a social one, and design for urban spaces that foster these processes is becoming more and more people-oriented [1]. Handling these complex contexts may mean conceptualizing design “not as the creation of discrete, intrinsically meaningful objects, but the cultural production of new forms of practice” [2]). This translates into the need to understand the mechanisms of ‘meaning making’ in order to support and improve building capacities [2]. This article discusses three challenges: (1) the reality that some groups lack the opportunity to engage in such complex design processes, (2) the growing need to strengthen their capabilities to participate in the said processes, and (3) employing tools that can give form to citizens’ capabilities in said processes.

We address these challenges through the Vennestraat case—a main commercial street in Genk, BE, shaped by various waves of migrant entrepreneurs that had to respond to the ever-changing economic dynamics of the city. We discuss a project where researchers together with citizens underwent a two-year capacity-building process via a set of enabling tools to support communicative transactions that we refer to as enabling tools/artefacts due to their potential to develop participants

skills and involve them into the debate on the refurbishment process of the street. We used Sen's and Nussbaum's Capability Approach to underline the dynamics between the different artefacts and understand their impact when used to fuel our capacity-building process. The concept of enabling tools is based on Horellis' [3] stance on participation as not an isolated event, but a constant communication between different groups that can be assured by using different methods.

Sen's and Nussbaum's Capability Approach advances a framework for 'planning, monitoring, and evaluation of development programs' [4] and moves past ones' capacities and aptitudes by getting a handle on peoples' chances and decisions to accomplish the things they value—their capability. 'This is where the main distinction between capacity and capabilities lies' [4]. The Capability Approach assumes that, without suitable chances, capacity building programs meant to advance new aptitudes and skills, will not suffice to empower individuals to accomplish that of most importance to them. As such, a capacity-building process should be a non-linear and essential process, grounded in understanding space as neither a medium nor an inventory of ingredients, but a mixture of geographies, built environment, symbolism, life practices and opportunities, interlinking each other. Through the Capability Approach lens, a capacity-building process: (1) facilitates practices that enable 'new forms of collective enunciations, making sense of the sensible' [5] and (2) transforms the design process into a set of methods and artefacts [6,7].

This article explores the following questions: (i) (how) Can we build capabilities of diverse actors to see and make sense of the systems they are part of? and (ii) What are the advantages of using the Capability Approach in a capacity-building process? We answer these questions as follows: in the first section, we discuss the Capability Approach—its mechanisms and components; in the second section, we analyze how the capacity-building process took shape through participatory methodologies. In the third section, we detail on which enabling tools were used. We conclude with how these artefacts supported the process of building capabilities.

2. The Promise of the Capability Approach Framework

Trying to assess social change in the economic context of the 1980s, Amartya Sen and Martha Nussbaum set up the premise of a new theory—the Capability Approach. The conceptual roots of the approach trace back to Adam Smith and Karl Marx, all the way to Aristotle's use of 'life in the sense of activity' [8]. The Capability Approach (also dubbed the capabilities approach) centers around different ideas on what people 'are able to do (i.e., capable of)' [8]. It assesses societal transformation in terms of 'what are people actually able to do and to be' [8–10] in the framework of available policies—'opportunities people have when, and only when, policy choices put them in a position to function effectively' [9]. By definition, the framework concentrates on what people can do, that is, their ability.

A central concept in the Capability Approach are 'functionings' "what a person manages to do or to be" [11]. Complementarily, Alkire [12] claims that functioning/s is a general term for the activities, resources, and attitudes that people consider as significant. They may include dignity, an educated mind, knowledge, and warm friendship, among others. Capabilities, on the other hand, are liberties that help people to achieve these functionings. Noteworthy, a functioning refers to achievement, while the capability to a set of opportunities [13]. The approach is people-centered, meaning it dwells on what they value and aspire; its principal goal is to create an enabling environment for people to achieve what they value. While skills and abilities are crucial, the framework additionally aims at grasping choices and opportunities to facilitate individuals to achieve their aspirations [13]. Whereas the functioning relates to improving the abilities of individuals, capabilities, as a concept, it involves the idea of increasing the choices available, as well as preparing people to grasp opportunities. The substantial assumption of the Capability Approach is that, in the absence of proper opportunities and capacity building programs, the environment is not entirely sufficient to enable people to achieve their goals.

Based on Sen's [14] writings, the assessment of social arrangements is not entirely concerned with choice. They are also concerned with the different aspects that convert capabilities into realized functionings [15]. It also emphasizes the significance of personal and structural conditions that

impact a person’s capability to choose. These conditions function as conversion elements as they affect how choices become achievements (see Figure 1). In particular, *three conversion factors* influence ones’ freedoms: (1) personal features (including intelligence, metabolism, and sex) determine the choices made by an individual; (2) social characteristics have pronounced contributions—they include social norms, hierarchical structures, and public policies; and (3) environmental aspects, such as public goods, climate, and infrastructure [15] (see Figure 1). Intrinsically, freedom relates to the amount of choices one has and the actual opportunities to perform the said choices. The Capability Approach emphasizes the personal and structural conditions that impact a person’s capability to choose—the conditions that affect the process of determining what a person values (see Figure 1). As such, it becomes vital to consider the characteristics to determine the propensity for bringing change rooted in individual decisions.

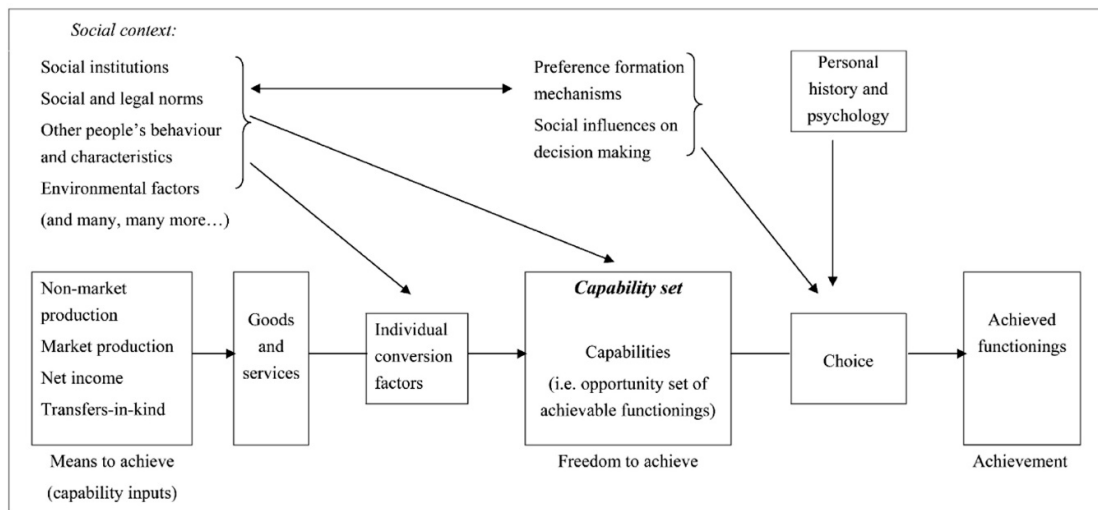


Figure 1. A stylized non-dynamic representation of a person’s capability set and her social personal context [15]

‘First, personal conversion factors (e.g., metabolism, physical condition, sex, reading skills, intelligence) influence how a person can convert the characteristics of the commodity into a functioning. Second, social conversion factors (e.g., public policies, social norms, discriminating practices, gender roles, societal hierarchies, power relations) and, third, environmental conversion factors (e.g., climate, geographical location) play a role in the conversion from characteristics of the good to the individual functioning’ [15]. Thus, knowing the goods one possesses or can utilize does not suffice to understand which functionings he/she can accomplish; we must discover more about the individual and the conditions in which he/she lives. Citizen’s freedom and their capability in the design process stems from their abilities, choices, opportunities and results [6,7]. The functionings—‘the doings and beings valued by citizens’, as defined by Sen (2005), can be a result of processes shaping deliberation, participation, and engagement [16]. A notable feature of this element is that its objective is to unpack the underlying values related to building capacities (i.e., in order to increase the freedom one has, we need to focus on the aforementioned conversion factors). Capacity building increases the options individuals have, and it guides the elaboration of techniques for deliberation, which reveals, builds, and addresses the conversion factors impacting the transformation of tactics into an achieved participatory principle. Based on the Capability Approach, we outline three specific elements of freedom—*choice*, *ability*, and *opportunity*—essential to a capacity building process. *Choice* is a critical element in a capacity building process: the provision of alternatives and increasing ones’ possibilities is essential to improve democracy among citizens and enables them to participate actively. *Ability* refers to (1) how individuals engage in the deliberation process and (2) their relationship with different actors involved in this process (e.g., professionals-architects, engineers; policymakers). It equally relates to their capacities to appropriate diverse design decisions, like urban interventions. *Opportunity* stems

from social, political, and economic processes that shape citizens freedoms. It requires engagement in the deliberation phase of the capacity building process. In process freedom, it is necessary to investigate ones' stance to understand if they have assumed the role of partners, informants, or actors of change in the process to assess the effectiveness of participation. Additionally, implementing a project in a specific area is the surest way of determining the propensity for expansion or a change in policymaking.

We propose a conceptual framework for building capacities by using three enabling tools (i.e., participatory mapping, mental images and serious games), in a process structured around the main ideas of freedom—choice, ability, and opportunity— notions central to the Capability Approach. The literature review exposes the need for understanding the conversion factors an individual has when designing for “a dynamic multiplicity, in which city-making envisages and is organized as an inclusive and responsive process” [17]. This capacity-building framework, framed by the idea of space and capabilities gives a set of enabling tools to practitioners that deal with complex urban transformation projects at different scales.

In order to increase the freedom of a person, he/she needs to get an understanding of his/hers conversion factors (and the elements that frame it). As individuals are prone to suffer from system blindness [18], we embark in the endeavor of assisting them to make sense of the systems they are part of. Given the complexity of this system, the process of ‘making things visible’ needs to be a collective process—a process during which a variety of people discuss (1) the elements that block or support them in achieving their needs and aspirations and (2) each others' roles in the said process. In this paper, we explore how we can support this collective process, based on Horellis' [3] stance, and that it requires enabling tools/artefacts. As such, we use playful environments (i.e., participatory mapping), gamified enquiries (i.e., mental images), and serious games as enabling tools to (1) support conversations between different (groups of) actors about complex topics, such as urban renewal projects, and (2) uncover the tacit knowledge and shared learning embedded in local networks, critical to trace and understand ecosystem dynamics at urban scale [19,20]. We define enabling tools by linking them with the concept of participation as described by Pelle Ehn [21]: artefacts/methods that create meeting points between language games of people with each their expertise. Enabling tools/artefacts are ‘formatted spaces of participation’ [22] in that they are technologically, socially, and economically pre-structured interfaces via which citizens can perform certain actions. That implies that, while the experience of capacity-building processes can turn out to be progressively available for the difficult to-arrive at groups and can assist members with articulating their dreams and wants, it will consistently be in the arrangement directed by the specific artefact used in that situation. The strain between the given structure of the capacity-building process and its steady redefinition by the act of participation will be constant. We use games as structured enabling tools, complemented by very open ones (i.e., mental images, participatory mapping). We need such tools to support people in the endeavour of understanding their conversion factors and, thus, their freedoms.

The contribution we are aiming at is operational and theoretical: we situate a capacity-building process as a design part of a broader participatory process. In what follows, we present and unpack our reasoning: we first look into the context and how we have built our reasoning when designing the capacity-building process. We do so through different enabling tools (e.g., serious games, participatory mapping, mapping mental images, and interviews) used to (1) learn about the social, political and economic reality of the context, (2) support people to make sense of the systems they are part of, and (3) understand the potential and limitations of each artefact. Finally, we tie everything together by framing the capacity-building process via a set of effective and consistent participatory methodologies.

3. The Context

Genk's development has always been related to work intensive industrial activities [23] relying on mining, until the 1980s and, later on, on car manufacturing, namely Ford Automotive. However, the closing of the coal mines in the mid-1980s, followed by the closure of Ford industries (2014),

tempered the city's economic development. As a reaction to the two main economic shifts, the closure of both mining and car industries, the city of Genk decided to change its development strategy and invested in (1) cultural-, research-, and art-related infrastructures and (2) developing circular economy principles and logistics. The city drafted a new project for the former coal mine and transformed it into a cultural hub, C-mine, where C stands for creativity. C-mine was established on the old mining site reviving the existing buildings. The municipality has owned the complex since 2001. As a second measure, to combat the consequences of the closure of the car factory in 2014, the government drafted the SALK plan (Strategic Action Plan) to make the city competitive again. The plan describes a series of measures designed to provide 3000 jobs in the short-term and 10,000 jobs in the long-term, with an implementation period from 2013 to 2019.

Vennestraat, a well-known shopping street, is one of Genk's main commercial streets which met its significant growth at the time of the coal mine. After the mine closed, the street started to decay. It was shaped by different waves of entrepreneurs over the years, starting with a majority of Turks, followed by Italians, making way to a multicultural mix of proprietors today. Fueled by the arrival of C-mine in its immediate vicinity, Vennestraat experienced gradual upgrades in the past decade. C-mine became a cultural and tourist attraction, creating a positive spiral of more businesses and new art galleries that settled in the street. In 2010, the municipality initiated a participatory process of refurbishing the street (Genk's spatial-economic vision, 2010). The process was completed halfway through 2014. Adding to the general 'refresher' and beautification of the street, the city built up Vennestraat's image as the 'street of the senses' (Genk's spatial-economic vision, 2010). The idea behind it was to underline the fascinating mix of multicultural catering establishments and shops in the street. More broadly, the city has promoted trade and catering as an asset deployment via a 'max of the mix' marketing strategy based on the multi-'culinarity' of the street [23]. When the refurbishment of the street started, in 2010, 28 shops from a total of 68 were empty. At the moment, there are 76 commercial shops and, an additional one or two available/free spaces—a high occupancy level for such a street [24]. This process was led by the municipality, which established a committee responsible for the image of the commercial street. The committee was formed from representatives of the economic, urban development, and social integration departments and set the leading directions of the refurbishment of the street. This approach further shaped Vennestraat as the main HORECA street of Genk. The first action to be implemented in order to reinvent the street was the Saturday fresh market (in the summer of 2010). The market attracted people in the area, acting as a promoter for the small proprietors. A total renovation of the street, placing urban furniture and greenery followed (works on the street were completed in 2012). The assigned committee developed the aforementioned projects with little to no involvement of the shop owners. The committee organized a call for projects for a vision for the street. The call asked for shop signs, window fronts, and terrace designs, as well as a marketing strategy for Vennestraat (Call for Ideas, 2012). The winning team had to develop, along with the committee, a 'glossary of good practices of interior and graphic designs' to later show proprietors and help them upgrade/update their shops. The objective was clear: a common language for all the shops on the street. In parallel, different actions were organized, by the same committee, to link the street with C-mine and fade out the hierarchy between the two. While C-mine was becoming a strong cultural attractor, Vennestraat would thrive, too. The strategy would benefit both: people that would visit C-mine would pass by Vennestraat, and vice versa. The two function as a 'gastro-cultural' mechanisms in a symbiotic manner. Even though this approach managed to resuscitate the street, with an impact at both the neighborhood and city scale, the participatory process put forward by the municipality created a robust gentrification process. Renting prices rocketed, and smaller proprietors were pushed out—7 small businesses, from the initial 28 when the refurbishment started, had to change location as they could no longer afford renting a space on Vennestraat.

In the new refurbishment dynamic, shop owners have to follow the direction of the committee in most matters of the shop (i.e., the signs on the window front, the graphics of the menu, the way the window front is displayed). Proprietors organized in an association; this, too, was established at the idea of the municipality. Albeit they run each decision that affects proprietors by this association,

the final decision goes to the committee. When a shop owner has a new idea or intent to do something with their shop, he or she has to consult with the committee. If the idea is in line with the overall strategy (the one developed by the municipality and the winning team), the committee will approve. If not, it will be subject to change to fit in the predefined discourse. This is likely to exclude one's skills and freedoms in a time when designing for cities is becoming more and more people-orientated. It is this gap that the Capability Approach covers—the framework focuses on both skills and structures and, as such, we use it to (1) develop a framework of analysis to understand the impact of enabling tools on the participation of entrepreneurs in a design process and (2) research how this 'gentrification process' increased the 'freedom' of entrepreneurs to perform the actions that they value versus the perspective of the municipality: how free should these entrepreneurs be (given that there are also other actors with other values and needs involved in the process)?

4. Mapping the Invisible: A Capacity Building Process

In what follows, we adopt Horellis' [3] stance on participation as not an isolated event but a constant communication between different groups that can be assured by using different methods. We apply the Capability Approach to frame a capacity-building process and understand how this framework can support a collective of entrepreneurs to become aware of their capabilities (and the impact of an ongoing urban renewal process on these capabilities).

When addressing complex urban projects, such as the refurbishment of the Vennestraat street, Genks' main economic ecosystem, the variety of stakeholders that is required has a direct impact on the quality of the project, the budget and the power to speed it up or slow it down [25]. In order to engage in a debate with these stakeholders on the given complex societal processes, we use a variety of enabling tools to support a communicative transaction between the parties involved. As stated previously, we frame enabling tools within Horellis' [3] description, as methodologies that support constant dialogue and knowledge exchange between different (groups of) actors.

To better understand local dynamics and methodologies used as enablers of dialogue between different actors, we turned to professionals and practitioners interviews as a first step of the capacity-building process. The preliminary research phase targeted existing methods used to engage entrepreneurs in a debate and support dialogue between stakeholders. Over three months, we conducted a set of thirteen interviews in two steps: (1) an online questionnaire (see Appendix A) set out to introduce researchers to the interviewees, and vice versa, and (2) semi-structured one-to-one interviews (see Appendix B), during which we further detailed on the particularities of the existing enabling tools and their success a/o limitations. We discussed with ten professionals that use participatory methodologies to support various local projects initiated by Genk's municipality a/o bottom-up initiatives on Vennestraat. Additionally, three representatives of the local administration office were interviewed to get a grasp on the officials' stand regarding the use of various enablers of engagement and knowledge transfer. Questions from the interviews were structured around five main topics: (1) the content of the participatory processes, (2) participatory methods used, (3) who coordinates the said processes, (4) who takes part in the processes, and (5) implementation/impact.

Interviews with city representatives disclose a complex administrative structure responsible for assuring a dialogue between civil society and officials. This structure—the Neighborhood Management Department—was established over two decades ago, as a way to address segregation, crime, and inequality in the city by involving people in the decision-making process. Each neighborhood was appointed a manager (wijk manager). The managers' responsibility is to know what is happening in each neighborhood and keep in touch with the people that live there and inform them about future projects and intensions that the administration has for that specific area, and vice-versa: inform the municipality about people's needs, interests, and desires regarding the environment they live in, as well as about their opinions related to the different proposals made. Neighborhood managers use different methodologies to involve people in this process (e.g., flyers, brainstorm techniques, but mostly through direct dialogue where people are informed about the date and the place when a debate will take place).

Practitioners' interviews outline a somewhat different angle on the methods used to engage with locals. They stress political, technical, and critical factors when addressing the dialogue between actors: political factors—the belief that people have the right to participate in processes of urban transformations and expecting that there is some power shifting going on between stakeholders; technical and aesthetical factors—the belief that the spatial solutions that come from these processes could be both aesthetically and technically more challenging and surprising because there is often the belief that all expertise lies in a designer’s hands; the critical factor—confronting yourself as a professional with different people you come to engage in a critical debate.

As observed in Table 1, the enabling tools applied so far are focussing on customary and set up strategies that the facilitators are comfortable with: various brainstorm techniques, focus groups and workshops and information meetings. The methods are lined up with the span of the process that range from a few single gatherings to processes that are engaging several months (and sometimes more). These methods and tools can be composed in five general categories:

- Tools for surveying and mapping the existing situation (e.g., social media monitoring, face-to-face surveys).
- Tools for providing information about the progress of the project under the form of one way communication (e.g., via social media, the local press, policy documents and reports).
- Tools for collecting knowledge and gathering feedback through discussion about existing plans for the refurbishment of the street (e.g., neighborhood manager meetings with focus groups, workshops).
- Productive tools—tools that allow for proposing alternative solutions (co-design workshops).
- Decision-making tools allowing proprietors to vote on project proposals.

Table 1. Summary of applied enabling tools in the refurbishment process of Vennestraat.

Capability Approach Conversion Factors	Existing Functionings/Enabling Tools		
<p>Choice provision of alternative participatory mechanisms essential to improve democracy among citizens and enable them to participate actively</p>	<p>Content of the Process</p>	<p>How is public administration represented in the process?</p>	<p>Municipal Level is involved and well represented or overrepresented in the process Regional Scale is represented Supra-regional level is underrepresented to missing</p>
		<p>How is public administration involved in particular?</p>	<p>Public Servants as facilitators (experienced in facilitating methods and brainstorming techniques)</p>
		<p>Does administration fund/sponsor the process?</p>	<p>Public funding for neighbourhood management and process</p>
		<p>Who is launching the content / subjects of different processes?</p>	<p>Municipality, Consortium of organizational /institutional partners,</p>

				activist groups/initiatives Individual Actors, Local Associations/Private Market Parties
	Participatory Methods	Methods	Which methods are applied and facilitated?	Focus on traditional methods: focus groups, workshops/brainstorming techniques, meetings/discussion rounds, extended by Social Media Platforms
		Level of participation	Level of participation in general and in particular project	Focal Points: Information - Consultation - Placation - Partnership
		Capacity	Are the participants able to express their interests?	Yes
			Does the process include making proposals?	Yes
		Process design	Who decides on the usage of methods/tools?	Neighbourhood Management (leadership)
Ability (1) how individuals engage in the deliberation process and (2) their relationship with different actors involved in this process	Coordination	Agreement	How far is the processes politically accepted?	High: Urban Scale: political commitment
			How intensively is the political domain involved in the process?	Intensively: a process that grew in the past 20 years due to the recognition from the political domain of its importance
			Are the involved/responsible political actors committed to the results?	Yes
		Leadership & Integration	Who is leading the process?	City administration Neighbourhood scale
			Is the process linked to other initiatives?	Yes Wijk Management is linked to other neighbourhoods and different departments, Wijk Management

				(as intermediary position between municipality - neighbourhood - citizens)
		Resources	Has the process necessary resources (money, room, etc.)?	No
			Are there resource restrictions on participant level?	Time, Knowledge, Language Barriers, Cultural Restrictions
		Design	Are the processes designed? Was there a deliberate design process?	Partly
	Participants	Methods	How are the participants chosen? (democratically)	Open for everybody to join: Invitation Letter to all inhabitants Social Media, newspapers, direct approach/invitation by Wijk Managers
		Extent	Is there stability of the number of participants over time?	Enthusiasm in the beginning - fluctuating throughout the process, people dropping out
		Diversity	Age Groups	Adults & working population age group: well represented 25-64 years Representation of young adults in a transition zone Teens and children: underrepresented Elderly people (65+): tendency for overrepresentation
				Is there gender equality in the process?
			Communication	How is communication organised? (within the process)
Opportunity to engage in the deliberation	Implementation/Impact	Influence	Are there plans/designs/actions produced?	Yes

phase of the capacity building process in order to assess the effectiveness of participation		Were the results implemented in policy, action, program so far?	Urban Scale, used as policy guideline
		To whom are they addressed?	Alderman and Public Administration
		Are there documents with the results of the process? Could the participants influence those documents?	Participants ideas were incorporated in the 'Genk in Sight: Future Scenarios of Genkenaars on their City' report. Will take initiatives to stimulate and integrate the ideas in the policy and bring them to live
	Learning	Are there training sessions foreseen?	Yes
	Implementation	Have the results been implemented?	Partly (smaller actions) the main part is in the initial phase

In order to support entrepreneurs in understanding their capabilities and the impact projects may have on these capabilities, we propose a set of three enabling artefacts that would support *choice, ability, and opportunity*. Table 2 illustrates how the Capability Approach language shaped the capacity-building process using the three different artefacts.

Table 2. Summary of interactions between the Capability Approach language, the capacity building process, and enabling artefacts.

Capability Approach Conversion Factors	Capacity Building Process	Enabling Tools/Artefacts
<p>Choice</p> <p>provision of alternative participatory mechanisms essential to improve democracy among citizens and enable them to participate actively</p>	<p>The provision of alternative artefacts is crucial to enhance proprietors' freedom in participating in planning processes.</p> <p>What type of tools can proprietors use to engage in the planning process of the shopping street?</p>	<p>serious games – structured tools, complemented by participatory mapping and mental images as unstructured tool that support people in the endeavor of understanding their conversion factors</p>
<p>Ability</p> <p>(1) how individuals engage in the deliberation process and</p> <p>(2) their relationship with different actors involved in this process</p>	<p>(how) Are entrepreneurs engaged in the process of deliberation? What is their relations with outside actors (i.e., architects, engineers, policy makers etc.)? What are entrepreneurs' diverse capacities to appropriate the space of the street a/o urban interventions? (how) Can the capabilities and ties of each proprietor be identified, enhanced and later used to feed a participatory process? Can we talk about collective capacities (i.e., generate collective</p>	<p>participatory mapping to draw entrepreneurs' networks and their dynamics</p> <p>mental images to capture social narratives and entrepreneurs' perception of their surroundings</p> <p>serious games as environments that present</p>

	action, collectively appropriate, change, maintain or improve the built space of Vennestraat)? (How) can we capture appropriate social narratives as data providers in developing a capacity-building process?	a simplified version of the spatial transformation processes taking place in ones' surrounding
Opportunity to engage in the deliberation phase of the capacity building process, under the role of partners, informants, or actors of change in order to assess the effectiveness of participation	Social, economic, and political processes shaping proprietors' freedom to take part in the process of deliberation and appropriate outcomes of the capacity building process. How far does participation go? Does it build on networks among different (groups of) proprietors and expand room for maneuvering to influence or change policy-making?	participatory mapping to analyze the potential of proprietors' connections to shape the urban space mental images seize proprietors' 'personal conversion factors' serious games as catalysts in building /strengthening communities and creating interactions

4.1. Participatory Mapping

The way people choose to portray their networks can take form in creative methods, such as hand drawn maps of social connections, or 'relational maps' [26]. These maps establish new ways of social networking examination and improve the comprehension upon the way people choose to display their networks [23]. Bagnoli [26] did such an experiment by offering participants pen and paper and later asking them to portray meaningful relationships by placing themselves in the middle of the map and taking into consideration that the distance from the center to each connection showed the strength of that particular connection. As such, she allowed participants to build personal representations in their own ways, providing 'basic scaffolding' [27]. Roseneil [28] conducted similar research and asked participants during interviews to create relational maps. They were to place their social connections into concentric circles. Here, too, the distance from the center showed the degree of importance of that particular connection. The work of Roseneil [28] is mostly in the therapeutic psychology field (psychosocial dynamics), but there are several analogous objectives, with participants asked to build visual patterns to illustrate their relationships, all with the aim of reaching hidden understandings [23]. Following Ingold's [29] correspondence, we proposed a participatory mapping activity asking proprietors to engage with physical materials (e.g., rubbers and pins) and arrange them into correspondence with one another.

4.1.1. Setting

We led a six-month immersive, participatory mapping activity with proprietors from Vennestraat, shop owners that have their businesses on the commercial street. The main interest here was to identify the 'socio-environmental conversion factors'. This participatory mapping exercise provided us with the lens to disclose a detailed landscape of the socio-economic dynamics in Vennestraat. On an operational level, we integrated a visualization tool in a mapping activity to (1) support people in illustrating their networks and the aspects they want to show and (2) to analyze the potential of their connections to shape the urban space and the dynamics on the street [23]. Sensitive to the tensions revealed in the interviews, we organized individual sessions with each proprietor to create the perfect environment where different dynamics may surface. Each shop owner was asked to create a visual portrait of the socio-environment (in this case economic) network of his/her commercial space using an A3 foam board, rubber bands, and pins (Figure 2). The pins represent different individuals a/o other shops, while the rubber bands represent the connections the author of the map has with them. The rubber band assists the author to visualize the relation he/she has with the rest of the 'actors': the longer the distance between pins, the more detached the relation.



Figure 2. Visual portraits.

4.1.2. Benefits

This type of process interacts in a language that stems engagement regardless of a person's background and allowed us to enable participation of different shop owners to visualize, reflect, and take action over their data. In relation to the overall goal of supporting the capacity-building process, the participatory mapping exercise incentivized reflections on the ability of entrepreneurs to identify their networks guided by the question of *(how) can the capabilities and ties of each proprietor be identified,*

enhanced and later used to feed a participatory process? These exercises made visible certain freedoms proprietors have: the freedom to choose shops they want to collaborate with, freedom to choose their providers, and freedom to choose the merchandise they want to see. The activity revealed hidden dynamics of networks and ties shop owners were not necessarily aware of, such as an overall link on how shops function at the street level.

4.2. Mental Images

We conducted this artefact-centred description by introducing mental images as an answer to the following operational question: *(How) can we capture appropriate social narratives as data providers in developing a capacity-building process?* Lynch [30] advanced three components that are critical for the analysis of mental images. They include identity, structure, and meaning. Identity involves the extent by which an object or space can be recognized as different from others, as a separate entity. Structure involves the spatial or pattern distinction which an object or space has to other observers or objects. Meaning refers to the practical and emotional sentiment that an individual has for space or an object. Mental images seize people's 'personal conversion factors', as described by Robeyns [15], and become important for they develop into mental maps that capture people's perception of their surroundings [30–33].

Mental maps are requisite in the context of urban identity formation, which is, in part, representative of one's valuation of a places' cultural significance. Fundamentally, mental maps may be formed either through direct or indirect experiences. However, it is essential to acknowledge that the quality of one's visualization about a particular urban space could be distorted if one solely depends on indirect experiences. For instance, media coverage about an event could affect one's perception. Consequently, the likelihood of forming a distorted image increases and therefore undermines the cultural, social, political, or even geographical significance of the urban space in question. Thus, it becomes imperative for individuals to acknowledge that mental maps become more complex over time due to the incorporation of information derived from both direct and indirect experiences. In this case, the image or reputation of urban spaces is best defined through direct experiences, which are quintessential in the development of an impartial evaluation of an urban area.

4.2.1. Setting

For six months, we gathered mental images people have about the street, interviewing more than 120 people (passers-by, residents, and shop owners). We asked participants to portray the most treasured memories they have about Vennestraat, iconic moments a/o places on the street, and reasons they have to return over and over again to this space. The discussion was structured around six main guiding questions: (1) How would you describe the street to someone who doesn't know it? what are the key characteristics? (2) What is the story of the street: anything changed in time? (do you remember stories /events, anecdotes about the street?), (3) Which are the most important shops (on the street) for you, in your eyes, and why? (4) What do you like? What do you dislike about the street?, and (5) What would you like to see happen in the future? As with the participatory mapping, we used an interactive participatory method. We gave each participant a cardboard contour through which he/she could look at the places they were talking about and 'frame' them as a mental image (Figure 3). The given definition of a mental image is that it "[...] is a unique, personal and selective representation of reality" [34]). Based on this definition, it becomes evident that the images are purposed to project an individuals' understanding or interpretation of the significance of a specific urban space. As such, collective mental images may hinder an individual to achieve its dreams when these dreams do not comply with the collective image. The use of these mental images is significant to recognize crucial information for the capacity-building process, data that would have not been otherwise revealed, such as the way Vennestraat street is perceived, based on ones' either objective or subjective experience.



Figure 3. Mental images.

4.2.2. Benefits

As far as the perception of Vennestraat is concerned, the complexity of mental images is yet another key insight. The selective representation of proprietors predicates the implied meaning and significance of this street. The role that direct and indirect experiences played in helping individuals form an image of the Vennestraat demonstrates that valuation is largely volatile. Therefore, personal values and experiences transcend the implied or intended effect of this space. Individuals’

experiences might bring about an effect different from that anticipated. Hence, via the use of mental images, the effect of variations in proprietors' understanding and recognition of 'carriers' of identity and psychological boundaries, alongside other typical characteristics of the street, are made visible. Despite the influence of shop owners' unique perception of urban landscape, mental images are a reliable instrument for the capacity-building process. Through mental mapping, insight were acquired in terms of identifying the more collective carriers of urban identity, alongside the general functioning of the street for particular groups. The functioning of the street is limited in that it applies for those proprietors who have similar characteristics. For instance, an area's representation of a group's identity is relative to their collective understanding of the carriers of the foresaid aspect. Therefore, while proprietors construct their own images based on their experiences, mapping these mental images allows for identification of points of convergence and divergence in entrepreneurs' expectations. Mental images are, in themselves, a selective instrument in that they seeks to single out urban elements that play an important role in the capacity-building process.

4.3. *Serious Games*

Advocates of participatory approaches to planning processes emphasize the potential of the game technique to augment lays' people contribution to research, ease the process of learning, bring about change, guarantee that the methods used are adjusted to people's needs, and eliminate 'designer subjectivity' [35–37]. Serious games are employed within the field of urban planning and policy ever since the 1950s [38,39]. The number of serious games and applications addressing urban matters is continually growing [25]. Serious games and applications came to cover a broad range of themes: serious gaming as a critical thinking mechanism that can assist people in thinking a future development for their cities or find alternatives to known issues [40], games as means to involve citizens in urban matters like sustainable development [41], games as platforms that engage individuals in city planning [42], games as catalysts in building/strengthening communities and creating interactions, and games as means to turn playful experiences into significant memories [43]. Serious games can be one efficient method used in participatory planning as environments that present a simplified version of the spatial transformation processes taking place in ones' surrounding, environments that foster cooperation and understanding [44]. They foster active participation and collaboration with citizens in order to address urban issues and make the transition to a smooth implementation of studied solutions [41,42,44]. Consequently, serious games are safe mediums where people experience and test these transition processes via various scenarios with no real-life consequence. As such, we advanced two serious games (i.e., Floating City and City Makers) to support collaboration and knowledge transfer among the different actors involved in the project of refurbishing Vennestraat street.

4.3.1. Floating City

Floating City is a game-based brainstorming, discussion, and problem-solving activity for small groups. It aims to foster positive thinking, the commonality between participants, and provide a motivating structure for discussions that involves all participants. The game is a digital one (Figure 4). Such games are routinely used to help groups quickly in assigning values and develop hierarchies among these values for a project a/o product or service without getting too caught up with the negativity typically associated with voicing complaints. In Floating City, a specific topic serves as a focus for collective reflection activities. The process of knowledge production by itself, and especially when there is involvement of people in a gathering, becomes a form of mobilization [45]. The mobilization leads to the development of new solutions and actions that are identified, tested, and retested to evaluate their significance in solving particular pitfalls that human beings experience in their day-to-day lives. Knowledge has to be embedded in the cycles involving action-reflection-action over some time [45]. Floating City nurtures the stated process, the nature of action can be made deeper, and thus moves from practicality in problem-solving to more of a social transformation (Table 3).

Table 3. Floating City—game elements.

Name	Floating City
Target Group/Age	9+
How many players can play?	1+
Playing Time	5–10 min with 15 min for debriefing
Short Description (Goal, narrative)	A brainstorming game for public spaces in which players can create and publicize their ideas and suggestions for city projects. A balloon is generated for every new idea and slowly elevates the city. Existing balloons can be viewed and rated by others to increase or decrease their effects on the city. All of the generated ideas and their ratings are automatically saved and are available for evaluation after all game sessions.
What do players learn/experience?	Players are proposing ideas, needs, wishes, values, and visions to adapt or improve their city. Each input is represented in a balloon that is carrying the city. Other players can weigh (thumbs up/down) those ideas and add comments. Voting for ideas and clustering them increases insight in the diversity of values among players regarding sustainable futures. A feeling of shared values.
Game rules	The game master or moderator poses a question for the audience. Players then have the possibility to generate their own answers and contributions and to like or comment on the ideas from other players. One round takes as long as the city needs to reach the top of the atmosphere. Then, either a new round starts or another question can be posed. All ideas are represented as balloons that are helping the city fly higher and higher. The more votes a balloon gets, the higher it pulls the city. High balloons then represent shared values. The number of balloons is an indication for the diversity of values.
Equipment/Game material/Interface	The equipment consists of a laptop, monitor/projector, and one keyboard.
Setting (open/closed, suitable for festivals.....)	The game works best in a workshop setting or festival (in this case, it should be used as an idea collector). Playing the game simultaneously with multiple groups may increase the value of the debriefing.
Additional requirements that are necessary to play the game (i.e., tables, quiet environment, necessary space)	There are no additional requirements.
Persons necessary for facilitation (game master)	The game requires a game master to allow for a constructive debriefing.

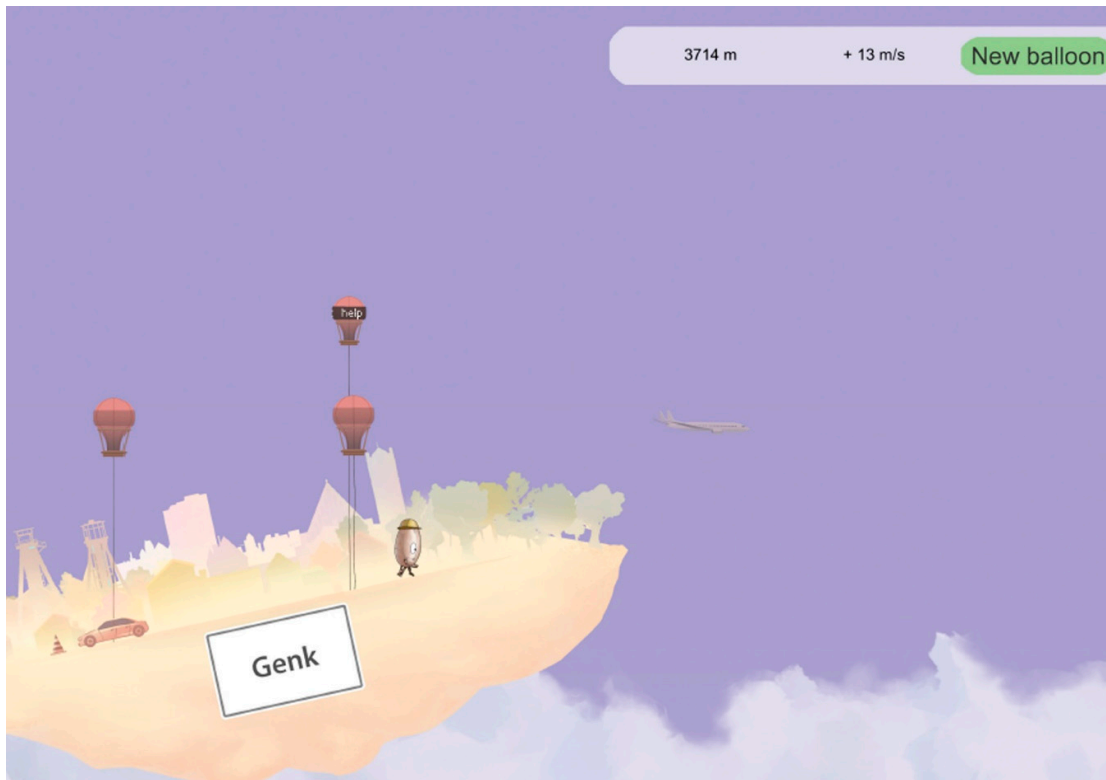


Figure 4. Floating City.

Setting: We proposed the game to the representatives of the shop association of Vennestraat in its predefined format, the format developed based on the initial findings. We introduced the game to the community as an artefact that can foster action, an action that each proprietor can take regarding the streets' refurbishment. The end goal of the game from the perspective of the capacity-building process, as a popular activity, is to communicate new ideas and information to people, as well as identifying common values, goals and shared dreams.

Playtests: The game was tested three times over four months. The first playtest session had two participants: one representative of the shops association and the street manager. Participants found the digital prototype easy to use and expressed excitement at the possibility of the rest of the community in using it. The first trial was organized in order to acquaint them with the format and methodology. With the help of the street manager, we organized a second playtest, this time only with representatives of the association. All five representatives took part, and the prototype was again well received. Participants found it very simple, with unpretentious graphics that can explain the topic at hand bluntly. A debriefing moment followed the playtest session and was concerned more with the applicability of the game prototype in the daily communication between proprietors, as well as between them and the street manager. The third trial was organized with three of the most active entrepreneurs from the association that take a leading role in the decision-making process. All playtests concluded that such a methodology could ease their communication on given projects and initiatives on the street; however, they would prefer it to be more under the format of an app that one could use at any time from any place, rather than a game that requires people to be in the same room at the same time.

Benefits: The proposed game structures the brainstorming process and provides democratic mechanisms for sharing and evaluating the ideas of others. It promotes reflection as an individual and as a group and reinforces the identification of shared beliefs. Floating City fosters discussion and problem-solving activity for small groups, positive thinking, commonality between participants, and provides a motivating structure for discussions that involves all participants. Using Floating City as a participatory artefact in the capacity-building process shed light on the individual and collective

capacities of entrepreneurs, as well as their values, and opened the debate on the opportunities and choices they have to reach certain freedoms. These freedoms revolved around the window fronts of their shops and the relation with the outside space of the street, what are proprietors wishes, how can they act to implement them, and what is their role in the planning process of these spaces.

4.3.2. City Makers

City Makers is a combined board and card game that focuses on the activation of participants to improve the liveability of their neighborhood or city. This card based game has one simple idea at its core—present projects as a set of steps that people need to collect resources for. By doing so, players will learn about the different resources needed for particular projects happening in the city (Figure 5). The game adapts abstract terms, such as material, permit, and location as resources, which players obtain in the form of cards. Each player receives a project that they need to finish to acquire points. For example, to start a business one might need to have a budget, idea, location, and people to work with. Players can work with or against each other to earn credits by completing projects, investing in each other's projects, or investing in community projects. The player who gains ten points first wins the game. Freire [46] argues that the expression of voices through forms, such as consultation, may lead to the reduction of the awareness that is required to introduce and sustain change in the community. Action alone may bring about the blind action, which may not present the best course of action to get the desired change in the various situations affecting individuals in any given society [46]. The best action, thus, is the one that takes the course of building self-conscious awareness that is coupled with the analysis of the individual's reality. City Makers can act as a medium for participatory action supporting processes that involve reflection, learning, and development of critical consciousness (Table 4).

Table 4. City Makers—game elements.

Name	City Makers
Target Group/Age	12+
How many players can play?	3–6
Playing Time	30–40 min with 15 min for debriefing
Short Description (Goal, narrative)	Players have to develop projects to improve the livability of a given neighborhood or city. In order to complete these projects, they can either chose to compete or to collaborate. The players can earn credits by completing projects, investing in each other's projects, or investing in community projects. The player who reaches ten points first wins the game.
What do players learn/experience?	The players are asked to present (given) projects as a set of steps that they need to collect resources (material, permit and location) for. By doing so, players will learn about the procedures that are required to implement these projects. This may, in turn, trigger them to actually consider implementing a project.
Game rules	Each player receives a project (in the form of a card) that he/she needs to finish to acquire points. For example, to start a business one might need to have a budget, idea, location, and people to work with. The player, who reaches ten points first wins. The game consists of four sets of cards: project, resource, market, and action cards. They are placed in the predefined deck positions. One project and four market cards are drawn from the decks and placed so everyone can see them. Everyone receives three color tokens—one for representing them on the field and two for investments—, three player cards, and a project. Players are then allowed to draw an additional resource card each turn, trade with everyone, and do only one of the following: finish one step of their project, invest in the common project or another player's project, or play an action card.
Equipment/Game material/Interface	The equipment consists of a (printable) game-board and a (printable) set of cards.

Setting (open/closed, suitable for festivals...)	The game works best in a workshop setting. Playing the game simultaneously with multiple groups may increase the value of the debriefing.
Additional requirements that are necessary to play the game (i.e., tables, quiet environment, necessary space)	There are no additional requirements.
Persons necessary for facilitation (game master)	The game requires a game master and an observant. The observant documents the gameplay to allow for a constructive debriefing.

CITY MAKERS

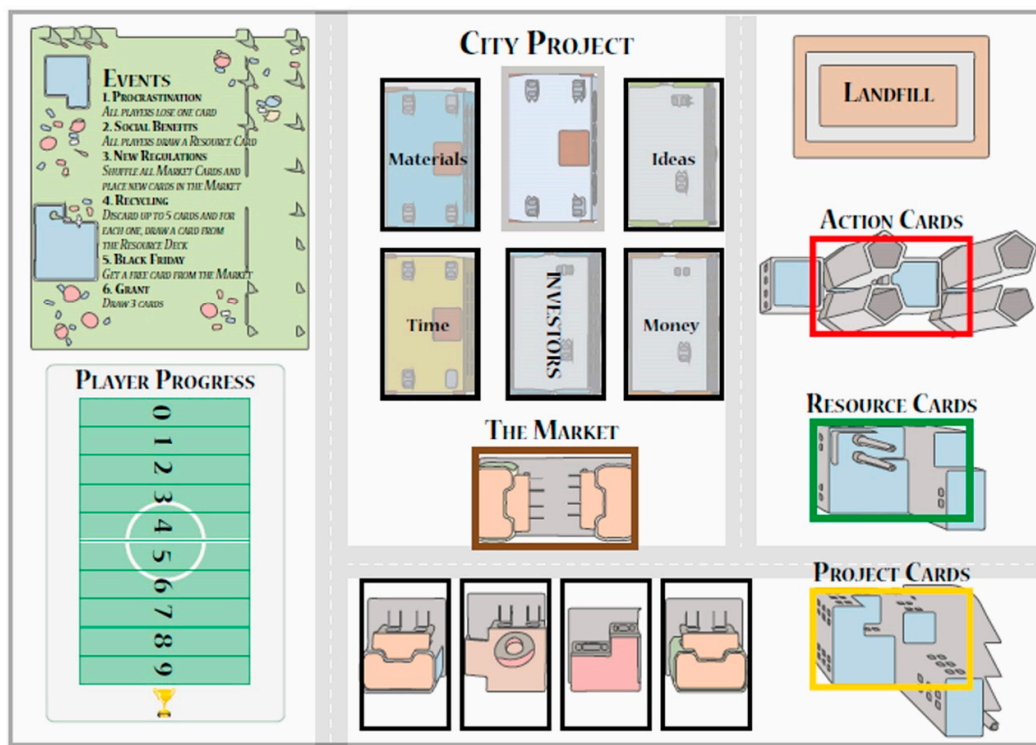


Figure 5. City Makers.

Setting: After introducing Floating City to the group, we proposed City Makers as a follow-up game that will incorporate ideas gathered from the brainstorming activity under the form of projects and further detail on these projects. The game proposed clear projects, from parking area for Vennestraat, less parking spaces on the street, larger sidewalks, and more sitting spots for visitors on the street, to more abstract ones (e.g., a greener Vennestraat street, how to make the shopping street more attractive, how to maintain its charisma).

Playtests: City Makers was played twice over one month. As with Floating City, we first introduced the game to the street manager and one of the association representatives. It was immediately labeled as a complicated activity and a type of game that only association and city administration representatives could play as it would be too complex for the other shop owners. The first test revolved around how to translate ideas from Floating City to City Makers, the games' mechanics, and narrative. Concerns on the lengthy process the game brings to the table were

underlined; participants were reserved regarding the timeframe of the workshop. The second playtest was organized with four association members. Each test took about 30 to 40 min, with 15 min for debriefing. Emergent game situations were observed, and proprietors started roleplaying and established alliances. Shop owners formed strategies depending on the available projects, resources, and emergent social dynamics. Participants traded with each other constantly and invested in other projects more than in their own, with the goal to obtain additional points when other players succeed. The game proved to be equally fun and motivating, and proprietors adapted metaphors used for the resource cards (e.g., people, time, money) to envision fun scenarios where they would be the main actors responsible for one of the resources. They would then develop a storyline where a particular type of exchange would take place and detail on the impact of their imagined actions. At the end of the game, the shop owners were asked to customize a project of their own with available resources. By motivating them to reflect within the constraints of the game setting, they link the process and understand the necessary steps in their real-world projects.

Benefits: The game fosters reflection on the steps needed to take in real life projects by motivating players to think within the constraints of the game. Herein lies the learning aspect of the game—through the abstraction of resources and social interactions, players attain certain ideas about how this can work in real-life scenarios. For the capacity-building process, this particular game brought about interpersonal communication, allowing a/o forcing participants to verbalize and, therefore, more profoundly concern themselves with the projects proposed for the street, their beliefs, and ideas, as well as those from others. Proprietors built capacities to better understand the choices available and necessary steps needed for a specific intervention, as well as the opportunities and abilities they have to participate in implementing these projects.

We would like to acknowledge the small size of the sample during the game session—a total of five play tests ranging from two to five participants per session. However, this does not undermine reported experiential evidence, as it is not structured scientific data. As such, we invite other authors to experiment with this tool and benefit from its versatility.

5. Conclusions

The capacity-building process is a non-linear procedure acting as a medium that interlinks spaces (geographies) and reveals choices, abilities and opportunities relating to Sen’s and Nussbaum’s notions of freedom. Building capacities for proprietors that will, later on, create the space of the Vennestraat street greets principles outlined by the Capability Approach framework. Ranciere and Corcoran [47] too, strengthen the nature of the capacity-building process as they claim that conceiving a design is not an imposed form. Instead, it is a set of artefacts and practices that result in different relations based on speculative thinking and time. We conclude with the evaluation of the enabling tools used in the Vennestraat capacity-building process (Table 5).

Table 5. Evaluation of the enabling artefacts within the Vennestraat capacity-building process against the Capability Approach language.

Capability Approach Conversion Factors	Capacity Building Process	Enabling Tools/Artefacts
Choice provision of alternative participatory mechanisms essential to improve democracy among citizens and enable them to participate actively	<ul style="list-style-type: none"> • Analyzing a/o addressing social needs • Experimentation with disruptive tools • Deliberate use of ideas a/o mechanism that seek to challenge the existing practices established in the street • Measures or resources to allow direct involvement of proprietors in participatory processes or independently realize their freedoms to act 	serious games —structured tools, complemented by participatory mapping and mental images as unstructured tool that support people in the endeavor of understanding their conversion factors

<p>Ability (1) how individuals engage in the deliberation process and (2) their relationship with different actors involved in this process</p>	<ul style="list-style-type: none"> • Involvement of diverse (groups of) actors in the process • A variety of actors involved throughout the process • Integrating into the design of the street different opinions voiced by proprietors • Involvement of various and multiple stakeholders in knowledge production processes • Stakeholders reflecting on capacity building processes • Capacity building in relation to building social capital by creating relations of trust between proprietors or formal communication channels for marginalized shop owners that could facilitate future collaboration • Recognizing systemic barriers (e.g., regulations, physical barriers, cultural values) that need to be overcome for various interventions on the street to become viable or successful and • Formulate explicit strategies to overcome such path dependencies 	<p>participatory mapping to draw entrepreneurs' networks and their dynamics mental images to capture social narratives and entrepreneurs' perception of their surroundings serious games as environments that present a simplified version of the spatial transformation processes taking place in ones' surrounding</p>
<p>Opportunity to engage in the deliberation phase of the capacity building process, under the role of partners, informants, or actors of change in order to assess the effectiveness of participation</p>	<ul style="list-style-type: none"> • Leadership acting as a driving collaborative force in the process • Agendas aiming to tackle sustainability challenges • Shape an explicit future shared vision of the street • Project activities contributing to capacity development across human action levels • Strategies seeking to reveal proprietors freedoms and quality of life • Providing entrepreneurs with new skills, training, abilities and improved access to participatory processes tackling the future development of the street • Formulate ideas that are (1) explicit, (2) aim for radical change, and (3) supported by a wide range of proprietors 	<p>participatory mapping to analyze the potential of proprietors connections to shape the urban space mental images seize proprietors' 'personal conversion factors' serious games as catalysts in building/strengthening communities and creating interactions</p>

Oosterlaken and Hoven [7] consider participation a design issue, as opposed to being theoretical. In other words, we, as researchers a/o practitioners, ought to consider the capability concept in a speculative term, instead of a normative expression. Latour [48] links norms with the capability space because they stem from the movement of things from "objects" to "matters of concern." As "matters of concern," associates with building arguments for intervention that respond to the speculative, productive, and innovative potentialities. The participatory mapping exercise revealed proprietors networks and supported shop owners in understanding the potential these networks have in shaping the urban space that influences their daily routine. While picturing their mental images, participants capture their perception of the surrounding environment seizing their conversion factors). Complementary to the first two, serious games, even when used in a limited setting, supported interaction among participants and presented the refurbishment process of Vennenstraat in a simplified manner. As such, the different enabling tools (i.e., participatory mapping, mental images,

and serious games), engaged in the process of building capacities among proprietors, allowed participants and researchers to grasp the overall institutional setting that influences the transformation factors and one's capabilities in the given context.

This article is a plea for an active inclusion, acknowledgement, and development of capabilities in complex participatory projects among different stakeholders and provides researchers and practitioners alike with a set of artefacts to help engage in said processes. Equally, the article is a shy invitation to start a dialogue on capabilities, considering that the classification presented above is based on a specific context and topic, leaving numerous dimensions of the tools un(der)addressed. We would like to underline the exploratory nature of the capacity building process and encourage other authors to build on such preliminary exploration to gather more evidence and formal results/analyses to deepen the understanding of how proposed ideas work. We invite the readers to experiment with enabling tools to support collectives in understanding the systems that block a/o support their freedoms and understand how they are part of this system and may also block a/o support the freedoms of others.

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Appendix A Online Questionnaire

Participatory Processes in Planning

1. Through your professional occupation, in how many participatory projects were you involved in the last five years?
2. In which field do the projects you are involved with, include participatory processes?
3. Which social groups are over-, underrepresented, or completely missing from the participatory process?
4. Which gender groups are over-, underrepresented or completely missing from the participatory process?
5. Which age groups are over-, underrepresented, or completely missing from the participatory process?
6. How are participation processes initiated?
7. How much influence do the participants have on setting the rules of the participatory processes?
8. What's the average duration of participation projects?
9. What's the type of events employed in participation projects?
10. What kind of tools are employed the most in these participatory processes?

Appendix B Semi-Structured Interview

Introductory questions:

0. Can you briefly explain the aim and goals of your organization and your position?
0. What kind of experience do you have with participatory processes?
0. How do you personally participate? What is your role in the participatory process?

Participatory Processes and Planning:

1. In which areas you consider important to use participation?

- What are the goals of actor involvement in the framework of this particular project?
 - Can you describe the participation processes in the projects?
 - Which tool(s) did you find as being most productive in terms of the process and quality of outcome? Why/How?
 - What is your motivation for using participatory processes?
 - What are your expectations?
2. How are people selected or invited to participate? How can and how does one join in?
- What are the incentives for e.g., private persons, who take part in these processes over a period of time?
 - How do you reach out to potential participants?
3. Can you describe the participatory process that you are using?
- When does the process stop? How do you know, when it's finished?
 - When do people drop out, and who is dropping out of the process?
 - Why in your opinion people stop participating?
4. What kind of rules are governing the participation process?
- Who decides on rules? Can they be changed?
 - Are participants generally accepting and playing by rules?
 - Do participants bend, ignore or break the rules?
5. How do you deal with conflict and power relations that are inherent in the participation process?
- How do you deal with the power conflict between the formal inviting organization and the participants?
- Which kind of conflicts surface during a participation process?
 - How do you deal with power differentials within the group?
 - How do you deal with knowledge and time availability differentials within the group?
 - How do you deal with people who obstruct the process? (e.g., By bullying other participants, hampering or screaming?)
6. What are results or outcomes of the projects?
- How satisfied are you with the outcomes? Did they match your expectations?
 - How much influence do existing participatory processes have on actual planning policies or plans?
 - How do you manage expectations on the part of participants?

Reference

1. Schouten, B.; Ferri, G.; de Lange, M.; Millenaar, K. Games as Strong Concepts for City-Making. In *Playable Cities, Gaming Media and Social Effects*; Springer: Singapore, Singapore, 2017; doi:10.1007/978-981-10-1962-3_2.
2. Suchman, L.; Blomberg, J.; Orr, J.E.; Trigg, R. Reconstructing Technologies as Social Practice. *Am. Beh. Sci.* **1999**, *43*, 392–408.
3. Horelli, L. A Methodology of Participatory Planning. In *Handbook of Environmental Psychology*; Wiley: New York, NY, USA, 2002; pp. 607–628.
4. Frediani, A.A. Participatory Methods and the Capability Approach. Human Development and Capability Association Briefings. Available online: http://www.capabilityapproach.com/pubs/Briefing_on_PM_and_CA2.pdf (accessed on 14 January 2006).
5. Ranciere, J. *Staging the People: The Proletarian and His Double*; Verso: Brooklyn, NY, USA, 2011; ISBN 978-1-84467-697-2.

6. Frediani, A.A. The Capability Approach as a Framework to the Practice of Development. *Dev. Pract.* **2010**, *20*, 173–187.
7. Oosterlaken, I. Design for Development: A Capability Approach. *Des. Issues* **2009**, *25*, 91–102.
8. Sen, A. Development as Capability Expansion. In *Readings in Human Development*; Oxford University Press: New York, NY, USA, 2003.
9. Nussbaum, M. Creating Capabilities: The Human Development Approach and Its Implementation. *Hypatia* **2009**, *3*, 211–215.
10. Sen, A. *The Country of First Boys: And Other Essays*; Oxford University Press: New York, NY, USA, 2015; ISBN 9780198738183.
11. Sen, A. Human Rights and Capabilities. *J. Hum. Dev.* **2005**, *6*, 151–166.
12. Alkire, S. *Valuing Freedoms: Sen's Capability Approach and Poverty Reduction*; Oxford University Press: Oxford, UK, 2002.
13. Gore, C. Irreducible social goods and the informational basis of Amartya Sen's capability approach. *J. Int. Dev.* **1997**, *9*, 235–250.
14. Sen, A. *Development as Freedom*; Oxford University Press: Oxford, UK, 1999.
15. Robeyns, I. The Capability Approach: A theoretical survey. *J. Hum. Dev.* **2005**, *6*, 93–117.
16. Alkire, S. Choosing dimensions: The Capability Approach and Multidimensional Poverty. Available online: https://www.files.ethz.ch/isn/127875/WP88_Alkire.pdf (accessed on 29 January 2020).
17. Madanipour, A. *Whose Public Space? International Case Studies in Urban Design and Development*; Routledge: London, UK; New York, NY, USA, 2010.
18. Goleman, D. *Focus: The Hidden Driver of Excellence*; HarperCollins Publisher: New York, NY, USA, 2013.
19. Innes, E.J.; Booher, D.E. *Planning with Complexity—An Introduction to Collaborative Rationality for Public Policy*; Routledge: London, UK; New York, NY, USA, 2010.
20. Dong, A. The Policy of Design: A Capabilities Approach. *Des. Issues* **2008**, *24*, 76–87.
21. Ehn, P. Participation in Design Things. In *Proceedings of the Tenth Anniversary Conference on Participatory Design 2008*; ACM: New York, NY, USA, 2008; pp. 92–101.
22. Muller, E. Formatted Spaces of Participation: Interactive television and the changing relationship between production and consumption. In *Digital Material—Tracing New Media in Everyday Life and Technology*; Amsterdam University Press: Amsterdam, The Netherlands, 2009; pp. 49–63.
23. Constantinescu, T.; Devisch, O. *Portraits of Work: Mapping Emerging Coworking Dynamics*; Information, Communication & Society: Manchester, UK, 2018.
24. Belgian Statistical Office—Stadbel. Available online: <https://statbel.fgov.be/en> (accessed on 29 January 2020).
25. Constantinescu, T.; Devisch, O.; Kostov, G. City Makers: Insights on the Development of a Serious Game to Support Collective Reflection and Knowledge Transfer in Participatory Processes. *Int. J. E-Plan. Res.* **2017**, *6*, doi:10.4018/IJEPR.2017100103.
26. Bagnoli, A. Beyond the standard interview: The use of graphic elicitation and arts-based methods. *Qual. Res.* **2009**, *9*, 547–570.
27. Prosser, J.; Loxley, A. Introducing Visual Methods. Available online: <http://eprints.ncrm.ac.uk/420/1/MethodsReviewPaperNCRM-010.pdf> (accessed on 29 January 2020).
28. Roseneil, S. The ambivalences of angel's "arrangement". *Sociol. Rev.* **2006**, *54*, 847–869.
29. Ingold, T. *Making: Anthropology, Archaeology, Art and Architecture*; Routledge: Abingdon, UK, 2013.
30. Lynch, K. *The Image of the City*; MIT press: Cambridge, MA, USA, 1960.
31. Wurman, R.S. Information Anxiety: Towards Understanding. Available online: <https://scenariojournal.com/article/richard-wurman/> (accessed on 29 January 2020).
32. Tufte, E. The Visual Display of Quantitative Information. Cheshire Connecticut. Available online: <http://www.colorado.edu/UCB/AcademicAffairs/ArtsSciences/geography/foote/maps/assign/reading/TufteCoversheet.pdf> (accessed on 29 January 2020).
33. Amoroso, N. *The Exposed City: Mapping the Urban Invisible*; Routledge: London, UK, 2010; pp. 41–64.

34. Sulsters, W. Mental Mapping: Viewing the Urban. Landscapes of the Mind. Available online: <http://resolver.tudelft.nl/uuid:fc71de16-b485-4888-b6fe-a9d2771d9e4a> (accessed on 29 January 2020).
35. Rogers, Y.; Marsden, G. Does he take sugar? Moving beyond the rhetoric of compassion. *Interactions* **2013**, *20*, 48–57.
36. Vines, J.; Clarke, R.; Wright, P.; McCarthy, J.; Olivier, P.: Configuring Participation: On How We Involve People in Design. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Paris, France, April 27–May 2 2013, ACM: New York, NY, USA, 2013; pp. 429–438.
37. Muller, M.J. *The human-computer interaction handbook. chapter Participatory design: The third space in HCI*; L. Erlbaum Associates Inc: Hillsdale, NJ, USA, 2003; pp. 1051–1068.
38. Abt, C. *Serious Games*; Viking Press: New York, NY, USA, 1969.
39. Duke, R. *Metropolis: The Urban Systems Game*; Gamed Simulations, Inc.: New York, NY, USA, 1975.
40. Flanagan, M. *Critical Play: Radical Game Design*; MIT Press: Cambridge, MA, USA, 2009.
41. de Lange, M. ECLECTIS Report: A Contribution from Cultural and Creative Actors to Citizens' Empowerment. Available online: https://waag.org/sites/waag/files/media/publicaties/publication_electis_bd.pdf (accessed on 29 January 2020).
42. Tan, E.; Portugali, J. The Responsive City Design Game. In *Complexity Theories of Cities Have Come of Age*; Springer: Berlin, Germany, 2012; pp. 369–390.
43. Rieser, M. Locative voices and cities in crisis. Studies in documentary film. In *Playable Cities: The City as a Digital Playground*; Springer: Singapore, Singapore, 2012.
44. Gordon, E.; Baldwin-Philippi, J. Playful Civic Learning: Enabling Reflection and Lateral Trust in Game-based Public Participation. *Int. J. Commun.* **2014**, *8*, 759–786.
45. Ashiem, B.; Cohen, L. and Vang, J. Face-to-face, buzz and knowledge bases: socio-spatial implications for learning, innovation and innovation policy. *Environ. Plann. C* **2007**, *25*, 655–670.
46. Freire, P. *Cultural Action for Freedom*; Harvard Education Press: Cambridge, MA, USA, 1970.
47. Ranciere, J.; Corcoran, S. *Dissensus on Politics and Aesthetics*; Continuum London: London, UK, 2010.
48. Latour, B. Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern. *Crit. Enq.* **2004**, *30*, 225–248.



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