

Experiential evaluation as a way to talk about livability in a neighborhood in transformation

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ABSTRACT

In order to preserve the open space in a suburbanized region as Flanders (Belgium), densification is one of the ways to go. But densification means that the existing living environment transforms and has an influence on the livability. This can lead to resistance by the inhabitants: they want to keep the idea of livability in their neighborhood. In the case of the Heilig-Hart neighborhood, we use the method of experiential evaluation to open up the debate on livability in a transformative neighborhood. Hereby, we bring aspects of formal evaluation and joint fact-finding in a participatory action research. At the end of the paper we discuss the first observations of the enrolment of this method so far: the definition of values, its experiential quality via a test set-up and its resulting tradeoffs, its enhancement of communication between city policy and inhabitants by providing a common language and the skills that have been made visible and are developed throughout the process.

CCS CONCEPTS

• **Human-centered computing** → Interaction design.

KEYWORDS

Experience, evaluation, participation, livability, transformation

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1 INTRODUCTION

After WWII, there was an increase of the welfare in Belgium. The government subsidized privately-owned single-family houses (in rural areas) and invested in a dense infrastructure and by doing so, made it possible for people to go and live anywhere they want. This policy has determined the spatial pattern in Flanders of suburbanization and the high consumption of open space. But, this low-density, uniform and car-dependent mode of living comes at

a high cost, because it is causing inefficient services, congestion and low biodiversity [8, 11, 14, 20]. These costs are paid by society as a whole, whereas the advantages are only experienced by the residents in low-density areas [7]. Already since the sixties, there is a public debate that discusses the societal costs of low-density suburbanization, in particular the (negative) impact of increasing spatial dispersion [2, 4, 18].

Recently this debate is experiencing renewed attention in Flanders by the clear ambition of the regional government to reduce the costs of dispersed urbanization by proclaiming a ‘net-development-stop’ by 2040 [17]. From that moment onwards, the net-amount of built surface can no longer increase. This means that there can only be a new development if an equally big one is being removed or that existing developments are densified. In spite of this renewed attention, the subdivision of open land continues at a rate of 6 hectares per day in Flanders [8] and with each new (suburban) development, the costs for society increase [19].

According to the Flemish Government the net-development-stop should be accompanied by a process of densification in order to preserve the open space. But when a neighborhood is becoming denser, there will be more traffic, more need for services, houses and more open space. Thus, the densification process is related to the livability of a neighborhood and it is an equilibrium that is not easy to balance.

Densification means also that the neighborhood will transform and transformations often trigger negative reactions. It is a difficult and sensitive task for designers and policymakers to initiate a debate about livability in neighborhoods that are becoming denser or that need to be densified. In the case we discuss in this paper, the Heilig-Hart neighborhood, we particularly work on the tension between the ambition of the city to densify this neighborhood (located close to a public transport hub) and the fear of the residents that this densification will reduce the livability of their neighborhood caused by increased car traffic and reduced open space. These tensions can take such proportions that citizens unite and block densification projects. We wanted to approach livability in a constructive way [21] and therefore have developed the approach of experiential evaluation as a way to start a debate with concrete actors in concrete situations on the livability of a concrete neighborhood.

2 EXPERIENTIAL EVALUATION

In experiential evaluation we combine formal evaluation methods with everyday practices in a participatory action research. Like in participatory evaluation, in experiential evaluation researchers, experts and inhabitants together decide what the evaluation criteria will be and how the data is collected, analyzed and evaluated. Throughout this process the participants produce action-oriented

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knowledge about their living environment, make norms and values explicit, develop future scenarios and reach consensus about further action [6].

In participatory evaluation, the people involved in the project, process or program together with an outsider evaluate the project, process or program to see if the initial goals are met and/or adjustments need to be made. The emphasis is on the evaluation and it is accomplished through a collaboration of the researcher and local practitioners [10].

Prior to the experiential evaluation is a participatory process organized to co-create a future scenario for a livable neighborhood. However, it is crucial that an experiential aspect is developed. This can be a test set-up of a future scenario in the everyday life of the people so that they can experience it. When a test set-up is in place for a certain period, it can be evaluated together with inhabitants and adjusted if needed. The evaluation, together with the experience, is an intrinsic aspect of the process. Interpreted as such, conducting an experiential evaluation is, in fact, a collective learning process [1] during which all the involved actors incrementally explore and agree upon how to quantify the impact of spatial scenarios. The learning potential of this process increases from the moment that not only inhabitants, but also policy makers and other stakeholders are invited to participate. This would turn an experiential evaluation into, what Horelli defines as, an 'enabling tool' that supports 'communicative transactions' between all actors involved in a spatial transformation process [12]. The aspect of evaluation is used as a way to start the debate and to construct a common language.

The added value of the experiential aspect is that it makes the evaluation process more tangible in everyday life. The participants have the opportunity to experience the scenarios that they have to evaluate. The assumption is that if the people can experience the test set-up in their everyday life it can lead to a more engaged evaluation because it is based on the value framework they construct during the experience.

3 CASE ANALYSIS

We have developed (and are still developing) the approach of experiential evaluation within the participatory process in the Heilig-Hart neighborhood that is located close to the city center of Hasselt, the capital of the province of Limburg in Flanders. The process is part of a bigger project "Werken aan Wijken" (Dutch for Building on Neighborhoods) and is formalized in a contract between the Hasselt University and the city of Hasselt to conduct participatory processes in three different neighborhoods.

The Heilig-Hart neighborhood is surrounded by a railway station in the south, a larger ring road in the west and north part and a former industrial site (in transformation to a residential area) and a smaller ring road in the east part. The morphology of the neighborhood is diverse: detached-houses, row houses, apartment blocks and services that go beyond the scope of the neighborhood.

In the next part of this paper we describe the different aspects -what do we evaluate?, how do we evaluate?, when do we evaluate?, and what to do with the results?- [6] of the experiential evaluation related to the participatory action research in the Heilig-Hart neighborhood. The research is ongoing. Up till today we have organized

five work sessions with inhabitants and stakeholders and the first test set-up is put in place. We are collecting the data but did not do the analysis nor the evaluation.

3.1 What is the subject of the experiential evaluation?

At the beginning of the process we had a meeting with engaged inhabitants to discuss the issues of the neighborhood. They were very clear that the mobility in the neighborhood is a central concern of the inhabitants. The city policy was at the same time developing a neighborhood mobility plan which created the opportunity to open up this process and let the inhabitants participate.

The Heilig-Hart neighborhood is a neighborhood in transformation: there is a large urban development (that will double the population in the neighborhood), there might be a new high-speed light rail implemented in the next years and the expansion of the mosque to a religious, educational and multicultural center. All these projects have an impact on the mobility and thus the livability of the neighborhood, but there is uncertainty about which projects will be realized, when and what will be the impact on the mobility? And can we already improve the livability today without knowing to what extent the neighborhood will transform in the next years?

The mobility situation in the Heilig-Hart neighborhood is also complex: there are functions that generate traffic, the neighborhood is situated between important traffic lines and close to the train station and so there is a large diversity of mobility users with each their own rhythm, intensity and needs. And in addition, there is a problem of traffic that uses the neighborhood as a short cut to go to the city center.

The mobility is thus complex and under transformation, which makes it hard to estimate the impact of alternative mobility plans. Mobility is also related to behavior of people and it is even harder to estimate how people will behave when there is a change in their everyday routine. That is why the experience is an important element of the evaluation. It helps people to evaluate possible scenarios based on their own experience instead of estimations. Therefore, we decided to implement the alternative mobility scenario which we coproduced with the inhabitants, the stakeholders and the city's mobility department. We subdivided the scenario in three test set-ups that will be gradually implemented. The subject of the experiential evaluation discussed in this paper, is the first test set-up.

In the test set-up we blocked two segments of streets around a central square to enlarge it (Figure 1). We changed the directions of one-way streets and turn two-way streets into one-way streets. The expectation is that this new situation will reduce the unwanted traffic that takes a short cut to drive to the city center through the neighborhood and will increase the safety of pedestrians and cyclists, especially for the children that go to the school on the square.

The test set-up we developed, is an invasive action in the public realm (public space and streets) which has an effect on the everyday life of the inhabitants, but also the shop owners and the people outside the neighborhood (visitors, clientele of the shops, the ones that take the short cut to the city center, parents that bring their kids

to school). The experience of the test set-up involved more people than the participants of the participatory process and we provided all these people the opportunity to give feedback on the test set-up (via an online questionnaire) and contribute to the evaluation.



Figure 1: road block that enlarges the square

3.2 How do we evaluate?

To collaboratively define the experiential evaluation, we collaboratively defined what we value, how we collect the data and who is involved in the evaluation.

3.2.1 What do we value? In the first work session we defined with the participants what they value in the neighborhood, in what kind of neighborhood they want to wake up in the future and what is important for the mobility in the neighborhood. The values that were defined, we used as evaluation criteria in the process. They were defined in a very general way, but throughout the process it became clear how different (groups of) inhabitants interpret the values in a different way. They define their value framework based on their everyday life which is also what they use to evaluate the test set-up.

The values or evaluation criteria for livability were defined as livelihood (public space, air quality, noise nuisance, green), safety (car, pedestrian, cyclists) and accessibility (car, cyclists and public transport).

3.2.2 How do we collect the data? The first step of the evaluation was to measure the impact of the test set-up and therefore we needed to collect data and processed it. We related to the concept of joint fact-finding to engage inhabitants in this first step. Joint fact-finding can enhance the use of technical information in decision making and devise common knowledge and understanding [9] and is a useful approach to collect data particularly for multi-stakeholder groups engaged in collaborative decision making process as it helps to go beyond adversarial, biased, misunderstood and misapplied (quasi) scientific discourses [16].

Together with the inhabitants and the mobility experts of the city we made during a work session a plan to measure the impact of the test set-up on the livability of the neighborhood. We decided that we want collaborative to collect the facts about the impact of the test set-up. Therefore, we decided together what we wanted to measure, how we can measure it, what the strategic points are to measure and when the measurements would take place. We used different tools to collect data: traffic calculations (1), Telraam (translated in English as 'counting window') (2), online questionnaire (3) and permanent feedback (4).



Figure 2: traffic calculation

The traffic calculations (1) were measurements that the city organized at around twenty spots across the neighborhood. In a period of maximum two weeks the amount of traffic (cyclists and motorized traffic) and the speed were measured (Figure 2). Telraam (2) is a citizen science project. Interested persons can install a small device at the window on the first floor of their houses. The device measures the amount of the traffic (pedestrians, cyclist, cars and larger vehicles) and the speed of the cars during daytime (Figure 3). The data is visualized on a website where everyone can access it. You do not need to have a login or a profile to see the data in different graphics of a specific street segment. It is also possible to ask for the unprocessed data produced by the device you have installed. In the Heilig-Hart neighborhood we could count on a network of 24 Telramen. Nine Telramen were made available by the city for free and were installed at strategic locations. The other ones were bought by inhabitants themselves (one Telraam costs around 80€) or were provided by an action committee formed by inhabitants of the Heilig-Hart neighborhood. In order to measure the impact of the test set-up on the traffic, we conducted a reference measurement. This means that we did the traffic calculations and installed the Telramen in the month before the test set-up was installed. The traffic calculations were repeated when the test set-up was at least one month in place. The Telramen continuously kept on gathering data.



Figure 3: Telraam

We did not limit the data collection to quantitative data, but also implemented a qualitative evaluation of the inhabitants and the reactions we got throughout the process. The city will organize an online questionnaire (3) at the end of the test period to give the people enough time to adapt to the new situation. With this

questionnaire it is possible for inhabitants and visitors of the neighborhood to evaluate the test set-up based upon their personal and direct experience. It is also possible for everyone to give direct and permanent feedback (4) via the email of the mobility department of the city administration.

The quantitative and qualitative data will be collected by an engineering office because neither the experts of mobility department of the city nor the researchers have the skills and/or resources to do this. The engineering office will process the collected data and analyze it so that it can be presented in a comprehensive way to workgroup. The unprocessed data will be made accessible for the members of the workgroup to keep the process transparent.

3.2.3 Who is involved in the evaluation? At the start of the test set-up, the city installed a workgroup. The task of this workgroup is to evaluate the test set-up and advise the city policy based upon this evaluation. The workgroup is made out of representatives of the inhabitants, the shop owners and the two schools in the neighborhood together with the alderman, the experts of the city's mobility department and neighborhood management department and the researchers. It is not very common in Participatory Design projects for the participants to be directly involved in the evaluation [3].

3.3 When do we evaluate?

The first phase of the test set-up started on the 1th of October 2019 and will be in place for at least two months to give the people enough time to get used to the new situation before they evaluate it. After two months will the data be collected and analyzed by the engineering office. This will take at least three weeks to process.

3.4 What to do with the results of the experiential evaluation?

The workgroup will advise the city policy based on the analysis of the engineering office and the collective evaluation. It is the city policy that will decide, based on the advice of the workgroup, if the test set-up will stay in place (and evolve to a permanent situation), that there will be adjustments or that we go back to the situation before the test set-up.

4 DISCUSSION

In this final section we will discuss the first successes and learnings of the experiential evaluation as an approach to start the debate on livability in a transformative neighborhood.

Firstly, an experiential evaluation requires to talk about values because they are used as criteria to conduct the evaluation. The participants made the values explicit in the beginning of the process (when they talked about their ideal neighborhood) in general terms (livelihood, accessibility and safety). With each session the definition of these values became more precise, making clear that different (groups of) participants gave different meanings to the same value and adding new criteria to the making and evaluating of the test set-up [5]. The **definition of the values** is a process that evolves along with the process of the experiential evaluation.

Secondly, the implementation of the test set-up in the everyday life enhances the evaluation of the mobility scenario by the

inhabitants: they can evaluate the test set-up based on their own experiences instead making an estimation of the effects. The aspect of the experience also made them question their own mobility and make **tradeoffs** between values (for examples: less accessible for the car versus a quieter public space). We tried on different moments in the coproduction process to let the participants make these tradeoffs but it was only when they could experience it, they made these direct tradeoffs. There was also another kind of tradeoffs made within the experiential evaluation. These '*risky tradeoffs*', as defined by Huybrechts et. al, happened when the city's mobility department opened up the traffic measurements to the members of the workgroup and made it possible to discuss how the measurements were performed, the data that was gathered, analyzed and evaluated [13].

Thirdly, the experiential evaluation enhances the **communication** between the inhabitants and the city policy. It has provided them with a common language to speak about the livability in their neighborhood. In particularly the organization of the workgroup for the evaluation of the data was an important step to bring them together. In the introduction of the first workgroup defined the alderman it as "an arena for dialogue". But also, the aspect of joint fact-finding provides a common language between the different actors in the participatory process. This does not mean that they will agree upon every aspect. However, they will speak a technical and/or scientific language understood and developed by all the participants [16]. And also, the measurements played an important role in the communication between the different partners in the process. Mobility is an individual behavior performed in the public space and the measurements allowed us to monitor this behavior and the changes due to the test set-up, on a collective level. The results of this monitoring enhanced the debate about sustainable mobility and livability in the neighborhood [15].

Finally, the experiential evaluation helps to make **local knowledge and the skills** of the participants visible. Before the participatory process was started, they had already a lot of knowledge about the city development projects and the mobility. Some volunteers of the local action committee acknowledged the potential of the citizen science project, which was developed outside the scope of this project, and they took it even a step further by enhancing the efficiency of the data collection. Not only to implement the knowledge of the action committee in the evaluation process, but also give them the possibility to transfer this knowledge to the other representatives in the workgroup.

The experiential evaluation did not only revealed skills, but also enhanced skills by involving inhabitants with the data collection, analyses and evaluation: installing a Telraam, organizing a questionnaire, learn about traffic calculations and mobility flows and collecting feedback. The approach of experiential evaluation has also changed the way of working within mobility department of the city: they are now working together with the inhabitants, have meetings with them and take in account their interests. They are partners in the same process and this is a big step forward especially in a city that does not have a lot of experience with citizen participation in decision making. If the process in the Heilig-Hart neighborhood is found successful, then it will be repeated in other neighborhoods and in this way institutionalize the approach of the experiential evaluation.

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