

Transformative effects of co-design: the case of the “My Architect And I” project

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In this paper, we present a co-design process intended to develop tools to improve the experience of architectural design services for single-family housing projects in Belgium. Our main goal is to identify the transformative effects of this co-design process through the lens of the participants’ experiences. This paper is based on focus groups conducted with architects and user-clients for post-evaluation of the process. Findings include insights on (i) their experiences during the co-design process; on (ii) transformative effects such as changes in perspective (including empathy) and practice; and on (iii) ownership of the project and its outputs. This paper shows that co-design processes can have a lingering effect on participants, even more so on the ones (N=4) showing up more than once (three or more events). These observations help inform co-design processes, and, more broadly, participatory design research and practices.

Keywords: *co-design; evaluation; transformative effects*

1 Introduction

It is commonly assumed that a co-design process – understood here as participatory, involving expert and non-expert profiles to the design process, including the ideation phase – not only provides relevant and meaningful design solutions for stakeholders but also holds transformative effects on participants (Blomkamp, 2018). Some examples of these effects are empathy (Tuomala & Baxter, 2019; Yuan & Dong, 2014), ownership (Broadley & Smith, 2018; van Rijn & Stappers, 2008), learning – which may result in changes in old practices and adoption of new ones (Hagen et al., 2018) – as well as psychological benefits such as a sense of personal growth (Corcoran et al., 2018).

These effects cannot be taken for granted. Researchers’ perspectives and participants’ accounts may differ but can be complementary for understanding the experience of participatory processes (Bowen, 2013). Having participants’ feedback to evaluate participatory processes is a pressing necessity to further understand and report on the transformative effects of co-design, and to increase accountability of such processes.



In this article, we address the experience of participants in a co-design process and discuss its implications. This evaluation regards a project named “My Architect and I” (title translated from the French “Moi et Mon Architecte”). This project aimed to improve the interactions and social encounters between architects and user-clients during housing design. As a result of the project, four tools were co-designed (see Figure 4). Two of these tools are covered in other papers (see Mertens et al., 2023; Yönder et al., 2023). This paper focuses on the transformative effects the process had on participants.

2 The case of “My Architect and I”

As the relationship between designers and end-users greatly impacts the overall process, user involvement during the design phase can enhance a project’s success (Arboleda, 2020; Lawson, 2006; Sarkar & Gero, 2017). Specifically, in architecture, studies on the relationship between architects and their clients brought communication gaps to light. Misunderstandings and frustrations cause tensions (Defays & Elsen, 2018). Users’ input is often limited to functional recommendations (Cuff, 1991; Sanders, 2005). Other studies have shown that when the interactions are correctly facilitated, clients and users are better able to engage (Luck, 2007; Van der Linden et al., 2017).

The project focused on Belgian practices. High levels of dissatisfaction and anxiety have been revealed among house owners who had been through a construction or retrofit process with an architect (Nauwelaers & Rossini, 2014). Another Belgian study showed that the client stands among the top five factors that make architects’ jobs more difficult on an everyday basis (Stals et al., 2018). This friction between architects and end-users raises the question of how to support and facilitate interactions throughout the design process. Regarding this context, the “My Architect and I” project aimed to develop some tools to help architects and user-clients communicate effectively in single-family housing designs.

2.1 Project overview

The project was divided into two phases (see Figure 1). The first phase consisted of research to better understand the current interactions between architects and user-clients in single-family housing contexts. It also tackled the understanding of co-design and human-centred design practices, and how designers and users interact throughout these practices. In this first diagnostic phase, we conducted interviews with architects (n=15), user-clients who had experienced an interaction with architects for a single-family housing project (n=14), and designers practising human-centred design and co-design in various design fields (n=17). These interviews were conducted until saturation was reached in terms of themes and problematic friction points brought up by interviewees. A thematic analysis was conducted to delineate the main friction points and challenges encountered throughout the relationship between architects and user-clients during design processes. Interviews with designers nourished the researchers’ methodology for the elaboration of the following workshops, as well as for their content.

The second phase was the co-design process per se and consisted of a series of workshops built around the knowledge gathered in the first research phase. The workshops are presented under three types: 1) Restitution & Sharing; 2) Ideation & Design; 3) Tests of the prototypes & Iterations. An overview of the conducted workshops and the corresponding planned activities can be found in the following sections. In between workshops, short reports circulated information to participants, reporting on the

content and results of each workshop. By doing this, we aimed to ensure continuity of participation and awareness of the project's progression.

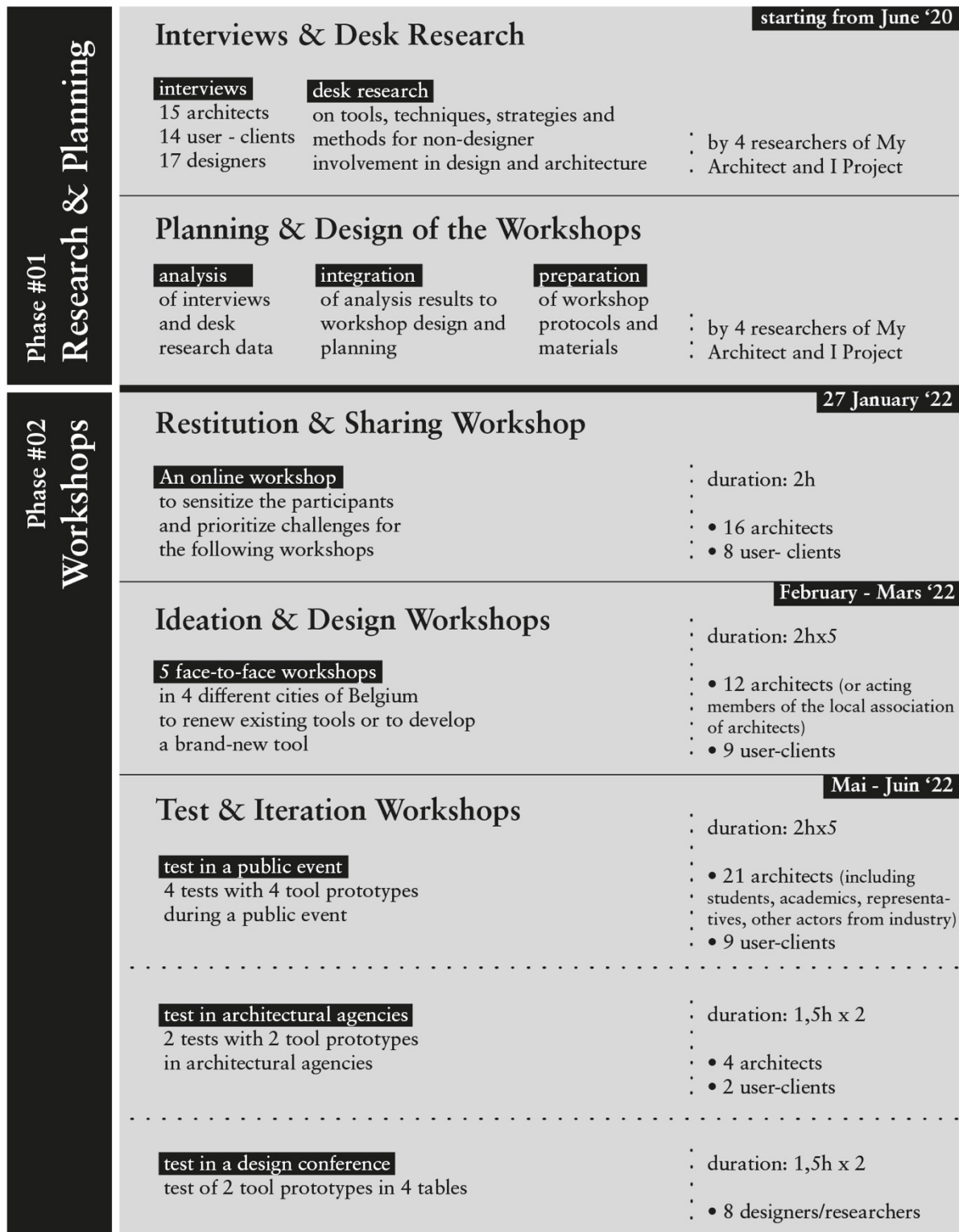


Figure 1. Phases and related activities of the project.

2.2 Workshops' structure

The overall workshop series was designed by the INTER'ACT lab researchers (n=4) building on the knowledge generated by the first phase. As some workshops built on the content of a previous workshop, researchers gathered in between workshops too, in order to make sense of the data collected previously, for instance to simplify, refine or prototype the outputs of the previous workshop(s) to inject in the next¹.

2.2.1 Restitution & sharing

The first workshop launched the second phase of the project. Architects (n=16) and user-clients (n=8) participated to discover and interact on an online audio-visual "Mural" (see Figure 2). This exhibit recounted reported interactions between architects and user-clients, themed in 10 chapters. The two main activities were based on this online narrative. Architects and user-clients were separately gathered in groups of two to five. Firstly, they were invited to discover some narratives of the other community. Secondly, they discovered the narratives of their own community. The purpose was to share the results of the first phase in order to sensitise the participants, but also to build empathy between the two parties. As a third activity, participants voted on the most pressing challenge in their opinion (among 12 challenges) regarding interactions between architects and user-clients. After completion of the workshop, top rated challenges were refined by researchers to be used in the next series of workshops (Ideation & Design).

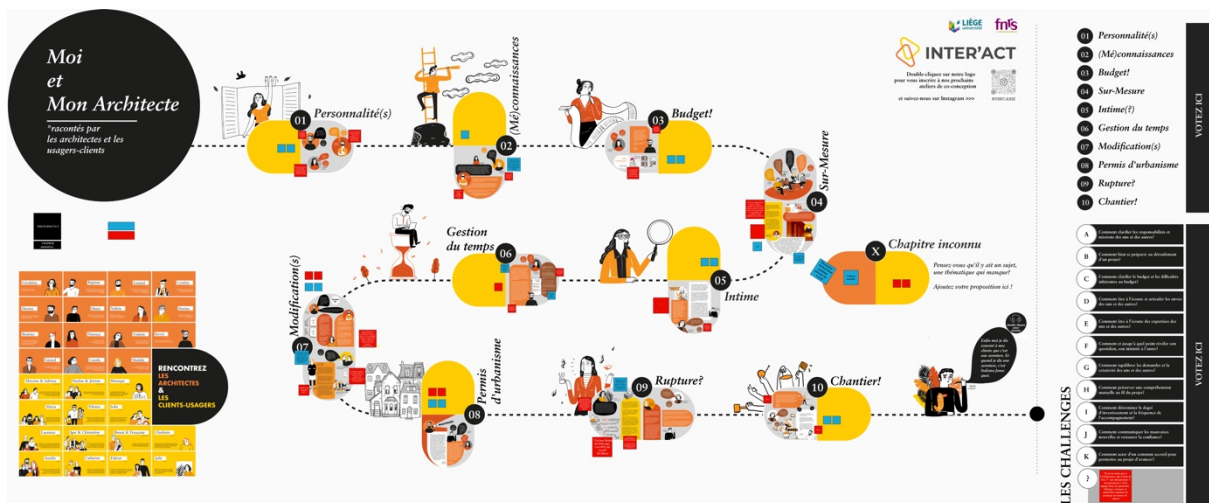


Figure 2. The online narrative designed for the Restitution & Sharing workshop

2.2.2 Ideation & design

The second phase of workshops consisted of the development of concepts. A total of five workshops, each lasting two hours, were held in the cities of Brussels, Liège (n=2), Namur and Arlon. A total of 12 architects (or acting members of the local association of architects) and nine user-clients participated in the workshops and they worked in mixed groups.

¹For a discussion about relationships between design research and co-design practice in the project of "My Architect & I" see Yönder et al. (2022).

During the workshop, participants selected one of the five refined challenges to work on. They were presented with selected excerpts from the fieldwork data regarding that challenge. They were also invited to share personal experiences on this matter. This activity aimed to build empathy, framed the selected challenge, and prepared participants for the next activities. They were then presented with inspirational tools and evaluated usefulness and transferability of these tools to answer the challenge. Later, they were invited to revise the selected tool or to develop a brand-new tool based on the inspirational tools (Figure 3).

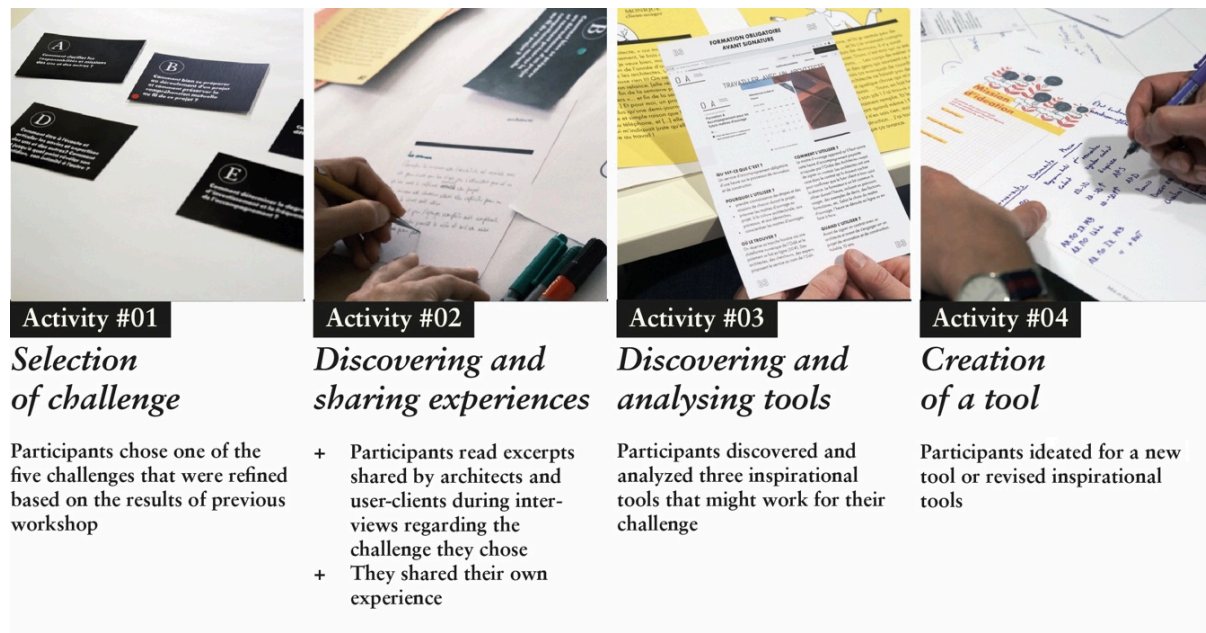


Figure 3: Activities held in Ideation & Design workshops

Once all five of the workshops were completed, researchers analysed the workshops' content by looking at the co-designed solutions and video recordings to refine design criteria and refine four tools (Figure 4). In the case of tools 01 and 02, a feedback session with two architects was also conducted.

2.2.3 Tests of the prototypes

These four tools (Figure 4) ought to be tested in order to get further feedback to iterate and elaborate on them, building on actual practitioners' and user-clients' experiences as input. In order to implement these tests efficiently and quickly, we conducted role-playing sessions through which participants – architects and user-clients – would simulate and improvise a meeting. During this phase, three types of test sessions took place: (i) the tools were tested in architectural agencies by architects and actual real-life clients; (ii) they were tested during a public event at the University of Liège, throughout small workshops sessions; (iii) the prototypes were also presented to and tested by architects and designers at the 2022 Design Research Society conference in Bilbao.

1. Test in architectural agencies

These tools were brought to two architectural agencies to be tested. Firstly, architects were presented with the four prototypes and had to pick one to test. We invited new clients to a workshop session where they would play an hour-long scene of a first meeting using the provided tool, based on their real-life project demand. In both sessions two architects and one

user-client were present to test the tools. After the sessions, interviews with architects and user-clients were organised separately to collect feedback on the tools.

The two prototypes selected by architects for the tests in agencies were analogue paper tools (e.g. Tool 01 & 02). These two prototypes were identified by agencies as more realistic to develop and implement in the short term, and given the limitations of the project, it was decided to keep the other two tools as concept designs.

2. Test in dissemination event

A public one-day local conference was held gathering other researchers, architects, practitioners, former clients, as well as students and the general public interested in architectural design, and user-centred and participatory practices. This event included a short testing workshop session.

During this session, four prototypes were tested within small groups using the same role-playing methodology and to obtain further feedback. Four sessions were held with a total of 29 participants: user-clients and architects (including students, academics, representatives of the local associations and professionals from construction industry).

3. Test with design researchers at a design conference

As we had received significant feedback from the Belgian communities of architects and user-clients on two prototypes (01. Questionnaire and 02. Journey Map + Guide, see Figure 4) we limited this last test to these two tools. The participants consisted of designers and design researchers (n=8). We implemented this phase during the 2022 DRS conference in Bilbao.

We used the same role-playing settings as during the dissemination event, only we had translated and adapted the tools to better fit an international audience. We provided the participants with role-playing kits, including two different scenarios tackling two different problematic situations (e.g. budget) created for two profiles: architects and user-clients. Both tools were tested in both scenarios (4 groups).

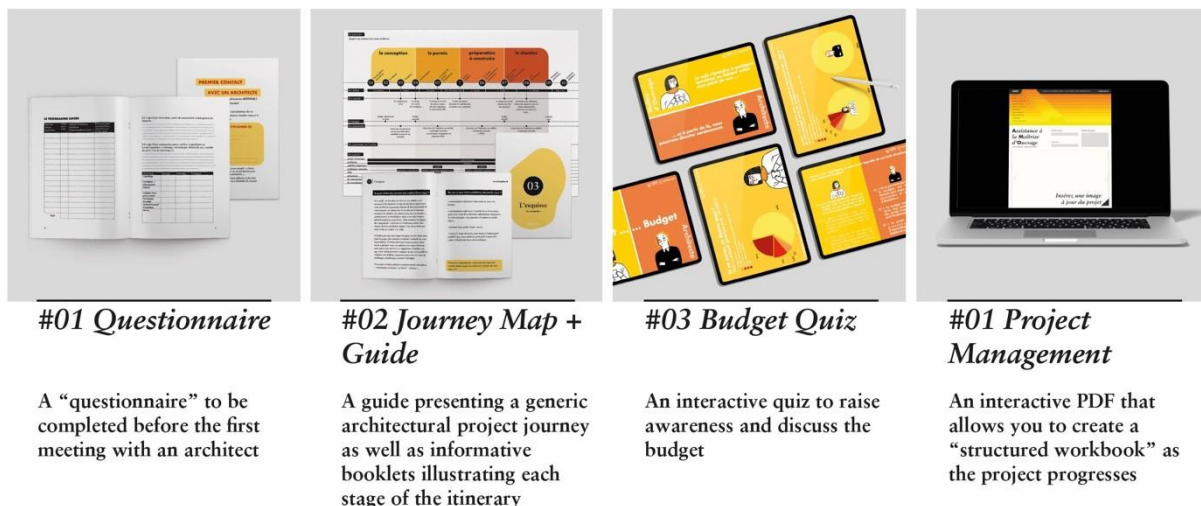


Figure 4: Four prototypes developed and refined by "My Architect and I" team after the Ideation & Design workshops

The role-playing kit was based on qualitative data and gathered a user's portrait, quotations, a scenario with a problematic situation, a solution, and an evaluation framework with four different sections. The role-play kits included issues and criteria that the players needed to defend and respect

when debating and evaluating. This workshop offered a playful and dynamic activity to improve empathy and to share our applied research practices in design and architecture.

2.2.4 Limits and future stages of the project

Due to the timeframe of this project, test sessions were fictional role-plays putting participants in hypothetical scenarios. This allowed fast feedback on the prototyped tools. However, we acknowledge that this is not equivalent to a test in real-life settings. Further stages of the research call for testing in practices, in a concrete case of architect-client interactions around housing. Doing so will further improve the tools and reveal their relevance, in regard to the context. This could show some practical benefits of improved user-client versus designer relationships.

3 The methodology

This paper aims to provide insights for future co-design processes and to highlight the value of the process beyond the workshops' outputs. We study the experience of participating in the "My Architect and I" project. We argue that participants' accounts may differ or can be complementary to researchers' observations and understanding. We conducted focus groups a posteriori with participants (Abrams & Gaiser, 2017).

We focus on the transformative effects that go beyond the design outputs brought by a co-design process, and more specifically on what triggers these effects. To do so, we track changes of perspective and practices in the participants' retrospective narrative.

3.1 Data collection and analysis

To understand participants' experiences, we conducted two online focus groups, separating two participant profiles (architects and user-clients). Among each focus group we invited various profiles of participants, taking part in the whole process or only to some workshops (see Table 1). The participants of the co-design process were recruited with the use of several strategies such as questionnaires (for interviews), social media announcements, posters, snowballing, etc. It was also possible to participate in all of the process or any workshop. We wanted to explore the possible effects of consistency that participation might have on the transformative effects of the co-design process.

The focus groups were held online, in October 2022, approximately 4 months after the competition of the last series workshops. Both lasted 90 minutes. A total of six questions were answered by the group of architects and five by the group of user-clients.

Table 1. Participants of each focus group and the phases of the project they participated in

Participants		Phase I	Phase II		
		Research & Planning	Workshops		
		Interviews	Restitution & Sharing	Ideation & Design	Test & Iteration
F. Group User-Clients	Maxime & Sabrina	Yes	Yes	Yes	Yes
	Laurence	Yes	Yes	Yes	Yes
	Prisca	No	No	Yes	Yes
F. Group	Gilles	No	No	No	Yes

David	No	Yes	Yes	Yes
Lionnel	Yes	Yes	Yes	No

The focus group questions were built around specific concerns such as (i) overall positive-negative experiences of participation; (ii) long-term effects; (iii) perceived benefits; (iv) changes of perspective; (v) changes of practice. The first question was asked during the greetings, introduction, and self-presentations, without reminding the participants of the co-design process.

Table 2. Structure of the focus group questions and their relation with investigated transformative effects

Introduction of the aim of the focus group and self-presentations		
Q1	What was the most memorable moment of the workshops for you?	experience of participation
Introduction of textual visual material and recap of the co-design process		
Q1 (asked again after recap)	What was the most memorable moment of the workshops for you?	experience of participation
Q2	Did you feel any frustration or had an epiphany during the workshops?	experience of participation
Q3	Have you had an experience, since, where you thought of the workshops?	long-term effects, wider-scale repercussions
Q4	In your opinion, has there been any other value added by this project and/or this process?	perceived benefits
Q5	Have you noticed a change in your outlook on your practice during or after the workshops? If yes, which? (only for architects)	change of practice
Q6	Have you noticed a change in your view of the user-client or architect during or after the workshops? If yes, describe it.	change of perspective

After the introduction and self-presentations, the design process was summarized to refresh the participants' memory, using supporting text and visuals. From this point on, we asked the first question one more time. The questions and discussions continued to be supported by slides displaying an overview of the process' steps (see Figure 5). The protocol of the focus groups and the questions are provided in Table 2. The questions were general and not specified for different workshops. Participants were expected to answer based on their previous workshop participation.

After the focus groups were completed, transcripts of the recordings were thematically analysed (Braun & Clarke, 2006). The analysis was initiated deductively by coding excerpts related to our concerns in the previously displayed categories. Moving forward, we also coded additional themes and subthemes related to the transformative effects of co-design. Our approach was therefore closer to abductive analysis (Thompson, 2022).



Figure 5. Focus group slides displaying an overview of the process' steps (Translated from the French version).

4 Results and discussion

In this section, we present our findings and discuss the transformative effects and impacts of co-design.

4.1 General experience of participation

Focusing on the experience of the participants in this research driven co-design project, we question the perceived value they had of their own implication as well as the overall project's.

Laurence (user-client) highlighted the added value of shedding light on the testimonies of both architects and user-clients. She also emphasised the practical value for those who try to find solutions to the problems and difficulties inherent in the architectural process for both parties. This shows the project is understood both as a research project and as a practical project.

The problem-solving approach based on stories reported by practitioners, was particularly appreciated by architects. For instance, David, one of the architects who was present at most of the workshops, expressed that even though the overall co-design process takes time, it also adds value by creating space for reflection and discovery. "Even if it takes time, I think it might be time saved afterwards." Mentioning the time-consuming drawback, this still advocates in favour of this kind of longitudinal co-design process, suggesting that a deeper understanding of user-clients could be profitable in terms of overall efficiency.

All the user-client participants defined their role as to be there to find solutions to help architects improve their practices, as well as to prevent future users from encountering problems going through the architectural process.

Prisca, a user-client in the early phases of her project described her overall experience with the co-designed tool as satisfactory. Yet, she felt disregarded by the two other participants (architects) at the table during ideation and design workshops (see section 2.2.2). This aligns with Siva and London (2011) who suggest that architects tend to be peer-oriented rather than client-oriented, alienating user-clients. Prisca reports that she was shocked by their comments towards user-clients. This further suggests a need to create empathic bonds between architects and user-clients.

For Sabrina (user-client) seeing similar problems discussed in different tables during the ideation and design workshop (see section 2.2.2) was really remarkable:

We [she and her partner] were on 2 separate tables and the ideas were the same. So, in fact the same problems came out and it really struck me because we say to ourselves, we didn't consult (with others), everyone shared their ideas and on the contrary, it was the same problems that came up on both sides. (Sabrina, user-client)

The architects also mentioned a consistency, repetitions or a certain familiarity with the other architects' testimonies. As Gilles (architect) puts it:

I think that all the architects who were present found themselves in the same situation and said exactly the same thing, i.e. that we find ourselves in complicated situations, telling ourselves at the beginning that the client is great. Then, we realise that the budget estimation that was put forward is not at all feasible and we should change our plans when it is no longer possible. (Gilles, architect)

These echoed similar observations made during research phase interviews, as the interviews brought up budget as among the recurrent issues in the relationship between architects and end-users. The workshops however brought these testimonies together and gave people a place to realise that they were not alone in the situation, giving them a sense of validation through shared experience (Jung & Ro, 2019).

The stakes on the architects' side are of course different from the user-clients' input. In their case, it could potentially affect their day-to-day habits. Gilles (architect) and Lionnel (architect) expressed a frustration with the process as they would have wanted to participate in the other workshops too, to give inputs at other stages of the co-design and follow the evolution of the tools. However, they mention the lack of time to do so, being very busy given their architectural practices.

4.2 Change of perspective

A change of perspective and building empathy were explicit goals that were expected from the co-design process. Regarding the focus group results, changes in the perspective occurred: (a) through sharing and reflection on the past, (b) as well reflection towards the future during ideation, (c) and through learning.

Sabrina (user-client) mentioned that the ideation & design workshops helped to better understand past experiences and gained an understanding that can guide her in the future:

[the co-design process] allowed us to remember a lot of stages (...) the time it took for example and the hardships that we encountered at certain times, to change practices and do better. I think because, in fact, we had forgotten a part. And then we say to ourselves: "Oh well, all

things considered, this part went very well, others a little less well.” And so now I think we're going to be more vigilant in the future if we have to do other projects in fact. (Sabrina, user-client)

Despite reporting her positive experience around her past architectural project, Sabrina (user-client) felt disenchanted by testimonies from other workshop participants:

And also seeing that our project went very, very well. We met the deadlines; we met the budget. Seeing that for others, it had not been the case, I think this also increased our awareness, and that might manifest as a barrier [for us to take up another project]. We're happy we built it, we're happy to it's done, but I don't think we'll do it again, especially when we hear others' experiences like that. (Sabrina, user-client)

Maxime (user-client) agrees, adding that ideation and future-oriented activities also influenced his view:

It's really in the ideation phase when we discussed the tools and we were able to exchange with architects (...) in the reflection on creating your own tool that I significantly deepened my understanding of the matter. (Maxime, user-client)

These moments of meeting and discussion also changed the way user-clients perceived the work of an architect. Prisca (user-client) attested of how she became aware that architects “needed to make customers understand” and that “there is a gap between the world of the architect, the representation of the architect, of the relationship with the client and the representation of the client, of his collaboration with the architect.” Similarly, Sabrina (user-client) expressed that she thought architects “mastered the project from A to Z” however she realised that an architect is “just one person on a team actually”. Maxime (user-client) mentioned a couple of times in the focus group that his participation shed light on the fact that architects were not trained (enough) for management skills. He was struck by the gap between their role and their training. David (architect) also mentioned that during the Restitution & Sharing workshop (see section 2.2.1), thanks to the online narrative (Figure 2), he realised that user-clients have a misunderstanding about the work of an architect:

We had all the feedback from user-clients, there with the interviews that you did and we saw very well in the text (...) that you transcribed in any case that there was really this generalised unawareness and which brought frustrations to them almost every time. (David, architect)

Lionnel (architect), on the other hand, doubted that his participation in the project had an impact on his understanding of the client, arguing that they already had a clear view of how difficult the architectural process could be for clients beforehand. However, later on, he admitted that his participation might have slightly impacted the way he presents things to clients, such as in formulation and wording. Although, for him, this has less to do with gaining empathy than with protecting himself from misunderstandings. This was corroborated by Gilles (architect) saying it might have impacted them too in their practice in terms of learning to phrase and write things down in order to protect themselves, as well as improving the social relationship with their clients.

These changes in perspectives of participants, through sharing, reflection and learning also led to a certain extent to a more nuanced understanding of each other's reality.

4.3 Empathy

As mentioned earlier, one of the goals of the workshop was to build empathy. Our main strategy was to share past experiences of architects and user-clients, integrate excerpts from interviews into the activities, and encourage participants to share their own experiences in group settings. We did this consistently throughout the project.

David's (architect) feedback on the online journey that we used during the Restitution & Sharing workshop (see 2.2.1 and Figure 2) confirmed to a certain extent our strategy. As he mentioned, it helped him to understand the experience of the user-client. However, some user-clients expressed their willingness to have more moments of encounter with architects. For Sabrina (user-client), the planning of the Restitution & Sharing workshop didn't allow it:

I might have just liked to hear the architects a little more because from time to time, we were all clients, users and we didn't see the architect's opinion. I find that at times, having their opinion on certain points might have been more constructive during the first online workshop, (...) we were online again and so we were separated on different questions and we saw only what was happening with us and not what was happening with the architects. (Sabrina, user-client)

Although during this online event, David (architect) and Sabrina (user-client) went through the same protocol (see 2.2.1 and Figure 2), their opinions and experiences were very different. However, both valued the importance of understanding the experience of the other. Maxime (user-client) similarly expressed this:

"Finally, the feedback that we are giving here. Now, we've never had the opportunity to give it to architects to hear their point of view." (Maxime, user-client)

On the other hand, as a response to Maxime's remark, Laurence (user-client) expressed another point of view. It was valuable for her that the project opened up a meeting space for sharing perspectives. She realised during the "Ideation & Design" workshop that the view of the architect and the user-client on the same subject could conflict with each other and cause misunderstandings. The workshops gave her space to reassess what she might have done wrong. She realised what should have been taken upon by her architect, interrogating the roles of each, and the lack of clear explanation on the responsibilities and range of action of the stakeholders.

Similarly, David (architect) highlights the test in dissemination event, observing how he realised that priorities regarding information sharing of architects and user-clients are dramatically different during the design process:

It was very interesting to have their (the clients') point of view, which is actually quite different from that of the architects who were present. They were asking (...) things that were totally different from what we were expecting and they wanted to respond to things that were to come much later, or that we hadn't expected that clients would already want to talk about right now. (David, architect)

However, we noticed through the remarks of one architect and one user-client a phenomenon we are calling the "marginalisation of experiences," which shows that an attempt of building empathy can also create a contrary effect. For example, Lionnel (architect) expressed that, as he was listening to

experiences of a user-client who was at the same table during ideation, he thought: "Well in fact, I understand that she is there because in my opinion, her experience was very bad and everything she said I said to myself 'but who is this bungler on which she fell on!'" (Lionnel, architect)

Prisca (user-client) similarly found that the experiences of two architects on the availability that they had were extreme:

I spoke about it to other people, but they said: 'but who were these architects!'. It was mainly in relation to availability, they said, we're tired of being called incessantly day and night, and so on. So, I was really shocked, as I'm not contacting mine... But, yes, I would also like to say that I know other architects who are really extraordinary. And that unfortunately, perhaps, all the testimonies that you have had for your project are negative or that you did not have the right architects? I don't know, I volunteered for your project and it's perhaps a shame because I still don't have the impression that they're all like that... (Prisca, user-client)

In these two cases, we did not observe an opening toward the experience of the other, nor questioning of existing practices. It was rather a rejection of their validity by positioning these examples as marginal ones. However, these marginalised experiences were referring to commonly mentioned problems and concerns, previously traced in interviews with architects and user-clients. This questions the effect of long-term participation on building empathy, as these remarks were expressed by two participants who rather momentarily participated in the project.

4.4 Change of practice

Beyond a change in perspective, we asked participants if they had noticed any change in their practice since the workshops. David (architect) expressed a change in his way of presenting the information to his clients, by paying closer attention to what information to share or withhold, as he gained a better understanding of the user-clients' perspective during the workshops.

Of course, it changed my way of doing things a bit. First of all, by reading the feedback from the user-clients at the first workshop, and then also after having discussed with other architects. Well, we realise that our experience is not unique and that everyone is more or less struggling with the same concerns of communication. So, yeah, to be able to share and to have feedback from clients (...), it is not quantifiable in my practice, but I'm sure that I bring things differently than before. I discuss things differently, I'm perhaps more careful about what I say, what to say and what not to say. I also try to encourage the client to communicate with me more than I used to. (David, architect)

We see this mentioned effect of the co-design process as an actual added value of the process to his architectural practice. Indeed, communication and knowledge sharing has been pointed out as being an essential aspect for a smooth collaboration, relationship and overall experience around the journey of an architect and user-client interacting (Luck & McDonnell, 2006).

Lionnel (architect), while mentioning earlier that his perspective on user-clients had not evolved with his participation to the phases 1 and 2 workshops, did however mention that he might have slightly changed his communication habits.

Perhaps the discussions we heard or the examples we read etc. induced that there are indeed small adaptations. It may be in certain words that we choose or a certain formulation. (...) Why

do we make these adaptations? For my part, I'm under the impression that it's (...) to say things in the right way and, above all, to write stuff down in a small summary email (...) not especially to better inform, but sometimes, it's perhaps to better protect ourselves from possible unforeseen events or prejudice that could happen to us, so it's perhaps not the desired effect on your part. (Lionnel, architect)

This ripple effect of architects learning new communication skills and strategies to avoid being held responsible for bad communication was indeed not a pursued goal of the co-design workshops but still is an interesting outcome to highlight. This was also supported in Gilles' (architect) testimony.

Gilles (architect) explains that he actually “clicked,” during the workshop he participated in, on the necessity to approach important questions about the project, the expectations and the budget, in order to assess, together with the client, the overall feasibility of the demand and avoid further misunderstandings. He even goes further to explain that he has since implemented a systematic request to every new client to write down their demand, wishes, and budget beforehand. This is a concrete transformative effect of participating in the workshop. We argue that this will have a beneficial impact on the interactions with user-clients as an actual writing assignment will empower the clients to reflect on their project and formulate their needs. In the end, this will help the architect assess the strengths and weak points of the demand, in order to address the feasibility of the project and guide the user-clients towards realistic options straight away, avoiding further disappointments and frustrations.

Gilles (architect), halfway between Lionnel (architect) and David's (architect) postures, argues that he will be doing so to both ensure a smoother relationship and overall experience of his user-clients but also to protect himself and have written proof of the early demands of clients to come back to, if communication problems occur further in the process.

4.5 Ownership

During the focus groups, the sense of ownership manifested in two ways: (i) as curiosity & demands for information on the final state of co-designed tools, as well as their use and benefits; (ii) as attachment towards the tools.

For example, Laurence (user-client) expressed that she would like to be kept informed about the outcomes of the project, if the tools are used and if so “if it leads to something”. Similarly, Sabrina (user-client) asked if and when they would receive emails on how the tools were used in architectural agencies and whether they had a positive impact. She emphasised that “that way we will see the project through to the end, that's really great”. David (architect) mentioned his willingness to test the final tools further with the clients who are open to it. He also expressed a frustration regarding his participation to the workshops, which can be interpreted as dedication to the developed tools:

In fact, there were 3 workshops where we really got into the tools. But each time it was almost a different one and therefore... In any case, for my part, I may want to have the same tool each time and follow its evolution ... (David, architect)

We further asked if he wanted to join a further step: real-life agency tests. He expressed his interest in testing the tool that he developed in his first two workshops and which he wasn't able to test in the last public event, as he was in another tool testing session.

This sense of commitment to a specific final product and its outcomes was expressed by the participants who participated in most stages of the co-design process. This highlights the possible effect of long-term participation on ownership. However, as our sample size is limited, this is a hypothesis which requires further investigation.

5 Conclusion

A series of co-design workshops were conducted to co-create tools to support the interactions between architects and user-clients. People shared their stories and co-created tools to tackle communicative issues and misunderstandings.

Focus groups highlighted participants' experiences of the co-design process and transformative effects it had on their perspectives and practices. Some of the benefits were validated. Sharing testimonies and stories about the past was confirmed as a powerful strategy to change perspectives and learn. While the primary purpose of future-oriented activities was ideation, these activities also brought people together and fostered change of perspectives and learning.

Another of the targeted outcomes was to build an empathic bond between architects and user-clients. This was mainly observed with participants (David, Laurence, Maxime, and Sabrina) who took part in numerous workshops over a longer period of time. They showed deeper nuance and better understanding of the other party. Those who were seldom present for activities did not seem to build empathy, marginalising the negative experiences of others. This suggests that building empathy may require longer-term engagement.

Similarly, participants with longer-term engagement in the co-design process expressed higher ownership of the project and its outcomes.

Architects found that taking part in the co-design process helped them improve their communicative practices. This supports knowledge sharing, which is key to an overall positive experience between architects and user-clients. While some architects did so to improve user experiences, others were more interested in using these as strategies to avoid potential liability issues. Regardless of the purpose, this change in their practices still puts focus on communication issues with user-clients.

User-clients defined their own role in this process as helping architects improve their practices. Architects wanted to take part in the overall process and some were eager to implement operational tools in their practices. A major drawback mentioned was the time-consuming aspect of it, as architects are already overworked.

The workshops not only underlined the recurrent issues in the relationship between architects and end-users, they also brought stories together and gave people the space needed to realise that they were not alone through tough situations, validating their experiences.

This paper highlighted a set of exploratory findings on the transformative effects of the participation in this co-design process. These findings cannot be considered as absolute as the sample is small. They are still compelling and could nourish future research on the subject.

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