A student, a product, a process: a fresh look at 'design games' in the Habraken tradition

In the changing climate of design education, programs attempt to prepare their students for professional practice in an uncertain job market. Educators attempt to equip their students with the skill sets and the development model to effectively contribute to innovative work practice wherever they may end up. Here we revisit Habraken's 'concept design games' to explore the value of the 'developing/playing combination' of design games, and how that tradition has been mixed with participatory design traditions. Through an example of a student-managed design project developing a board game for a client, we explore the role design games and designing games play in extending the value of design games into industrial practice. We conclude that the structure provided by games and the 'in-play development' that occurs, enables the student to invite multiple stakeholders into the design process in a way that provides valuable insights of their practice as well as her own.

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INTRODUCTION

In educational settings such as the university, it is common that students and teachers alike refer to what we do 'in here', in relation to what goes on 'out there' in what is often referred to as the 'real world'. Students often learn practical and analytic skills through projects that conclude with some form of deliverable: a concept design, a research paper, a blueprint, a presentation, a final product, or a test. Teachers, with their various styles of hands-on or hands-off teaching, use a variety of strategies to incorporate real life cases, literature, company projects, and guest lectures to prepare students for practice in the real world. Teachers and students struggle to identify the pedagogic value of their courses, and struggle to understand how the dual role of what is taught and how it is taught comes to bear upon professional practice. In this paper we keep our focus upon the deliverable of a class project, a design game and the process of creating design games, and we explore both how the product was used as a tool in student practice, and how the process of making it was mirrored in a real life project. We begin by reviewing the introduction of 'concept design games' by Habraken & Gross [7,8], and explore the appropriation of their ideas in design education and industrial practice. We will then introduce a student-managed case of designing a storytelling game for a client, and look at four examples of how games were used during the design process to structure engagement with multiple stakeholders, reveal important aspects of their practice, and reveal aspects of practice of the designers making the game.

DESIGN GAMES: CONCEPTS, DEVELOPMENT & PLAY

In the late 80s, Habraken & Gross [8] introduced the idea that developing and playing 'concept design games' can be useful for research into design theory and method by using them to isolate and explore concepts relevant to design practice. Based out of the MIT's School of Architecture, their focus was upon the social aspects of designing buildings and urban environments. For their group of 8 researchers, design games allowed them to explore the social dimensions of designing without the distractions of the 'functional knowledge' of real design tasks.

We found that in a game we can bring forward aspects that represent concepts guiding our designing. When we communicate as designers we share certain concepts that cause us to act in certain ways; through these same concepts we also 'understand' each other's actions. Developing and playing games, we learn about the concepts we hold. That is why we call our games 'Concept Design Games' [8 p.151].

Habraken & Gross provide a specific vocabulary for developing and analyzing concept design games. As they explained, concept design games are *boardgames* that can use any type of material such as clothespins, washers, nails, etc. The *technical universe* refers to the board and specific pieces

that may vary from game to game or vary within a single game. The roles of the players can be distributed in different ways in what they refer to as the *control distribution*. And the *territorial organization* refers to how the board space is used; either a private space (e.g. without others seeing) or public. Design games can be played with two or more players.

According Habraken & Gross, there are two important characteristics that distinguish design games from other games: the *program* and *in-play development*. Players need to have a shared program, distinguished from their individual goals, that binds them to the task and suspends the competitive aspect often associated with games. They suggest that when people have different ideas about the program it creates conflict. At the same time, design games are equally malleable for both the game developer and the player, with the caveat that the developer ultimately determines the degree of malleability of a game; or as they say, the 'developer-designer setting the stage for the player-designers' [8 p.155].

There is an ironic twist to how they came to value their concept design games. The games were only developed and played within their team of 8 developers in their department at MIT. They hypothesized that a finished game could also be good for design research, that they could be good for studying how designers do such things as construct conventions, agree, disagree, approach problems as a team, or, that that the games could be used to study alternative design approaches. But these questions were beyond the scope of their project, "[n]or did we submit the games to players outside our development team in order to gauge the games' accessibility' [8 p. 152].

They struggled with developing a proper recording device that would help them record and review the design moves. They had tried taking photographs, but felt it was too distracting. They looked to video and computers as possibilities. "In an extended version of the game recorder we may also want to record why the piece was placed, check whether the move is legal, and perhaps to keep score. Further, we may want the game recorder to keep track of rules, agreements and negotiations made among players.

The group found that through developing and playing games and continuing to modify them and play them again, they were able to continually approach a subject from new angles that demanded new ways of dealing with it. At the same time, they were cautious not to over sell the applicability of their approach. Under the heading "A research tool, not a design tool", they state:

Concept design games are research tools intended to help us better understand designing. They do this by opening to scrutiny the concepts we use as designers, as well as the structures of the complex artefacts we manipulate. They are not meant to be tools for designing, nor are they made to help teach designing [8 p.152].

Facilitating collaboration through design games

It is against this backdrop that we look to how others influenced by the work of MIT's school of architecture, notably those representing two research groups in Scandinavian, have employed 'design games' in educational and industrial settings.

Brandt & Messeter [2] describe five years of using games to facilitate collaboration between multiple stakeholders in 'participatory inquiry' and 'collaborative design' of ubiquitous IT. In their case, the games are just one of the strategies their research group developed to provide a structure for players to engage each other and to engage the design material in their 'interaction concept design' projects. The games are used to focus attention on specific issues and are incorporated strategically into the design process by a facilitator to nurture issues important to that stage of the design process.

The overall aim with our design games is to provide multiple stakeholders with means for developing, negotiating and expressing a shared understanding of users, use contexts and technology as part of concept design activities [2 p.123].

They give examples of a sequence of four games to be played in a workshop format and *in situ* that together seek to represent a user centered design process. The User Game, for building an understanding of the user; the Landscape Game to explore the use context, the Technology Game to introduce technology early in the design process for making explicit technology issues and to emphasize tangibility of product concepts; and the Scenario Game, to bring all the previous issues together in the creation of future design concepts. They suggest that each game takes approximately 2-3 hours to complete.

The authors focus upon how effective the design games are in structuring a user centered design process. The games have been tested over time for their effectiveness both with students and with multiple stakeholders in industrial projects. The approach of the game developers is that the games are not made for modification by the participants, but instead are used to set the stage and structure of collaborative events. When using these games with students, the focus has been upon playing the game and creating material to play the game, but not on the game as an object of design.

Instead of attempting to suspend the 'functional knowledge' of the players in order to focus on social aspects of designing together, the facilitators use the structure the games provide to highlight specific issues deemed important to the design process. They look to the game pieces for what they represent, how such representations can be presented in the design moves of a player, and how the player becomes fluent in conducting design moves. Additionally, the game rules provide structure to help the goal of suspending previous power relations of the players and that the rules. Instead of 'concept design games' for making explicit concepts players hold in order to better communicate for better collaboration, Brandt & Messeter describe 'design concept games' that use scenarios and a game structure to help multiple stakeholders collaboratively design concepts within the game play.

Teaching design through developing design games

Iversen & Buur [9] describe three years of action research using design games in education and industrial settings for building design competence for novice designers and experienced designers alike. Through describing how students and industrialists are introduced to designing games, describing some examples of the games they develop, and providing a list of their reflections, they argue that developing design games builds design competence in novices.

The development of games (and other strategies) was part of their teaching practice with students as well as their research practice with industrial partners. It is their contention that project-based teaching does provide students an opportunity to use design methods in action, but that it does not allow them to build a repertoire of design practices. They claim that students focus more on sticking to the rules of the method, than focusing on the situation they are facing. They look to design games to overcome the obstacles of teaching design.

Based on the Habraken tradition of design games, Schön's proposal for a *reflective practicum* [12], they propose that their 'design is a game' course, where students play and develop their own games, contribute to students learning a collaborative design vocabulary by modelling design situations, and enabling students to explore 'real life design'. This appropriation of Habraken & Gross' concept design games introduces the game

development process as a pedagogic tool for learning designing. While their games can still be considered concept design games built by a team, they are geared toward being playable by others.

A Scandinavian approach: 'design is a game'

When we take a closer look at the approach of Brandt & Messeter, and Iversen & Buur, we find a distinct form of participatory design practice that involves the designer staging events for engaging multiple stakeholders in tasks at various stages of the design process. This practice has been developed in relation to IT design of systems and products in the Scandinavian tradition of Participatory Design [5]. This is depicted in Bødker & Buur's 'design collaboritorium' as a new form of practice that seeks to open up the design space and free designers, users and others from their standard, non-collaborative roles, early enough in the design process to contribute meaningfully to design [3,4]; a practice where the role of the designer is to orchestrate a "shared playground for exploring new design possibilities" [1 p.4] using various types of design material and for engaging and each other in various forms of reflection and innovation. Like a concept design game, in this practice the designer-researcher determines the degree of in-play development of such staged activities with adjustments to the territorial organization, the control distribution and the number of player-designers or the player-researchers. Unlike the original design games, the role of the facilitator adds a new dimension to the in-play development that is 'built-in' to the game.

It is this vein that we move from the initial Habraken concept design games, used by a group of developers to explore communication and collaboration among themselves, to Brandt & Messeter's broader approach of using games as a framework structured by rules, roles, and pieces to collaboratively design for a shared program of creating innovative concepts, and finally to Iversen and Buur's progressive pedagogic contribution of using games to build competence in a participatory design curriculum,

We now look to introduce a practical project that is not explicitly an action-research project, does not involve a 'complex practice' implicated in the development of IT, and does not involve experienced facilitators of collaborative design events as the authors above. Before we introduce the case, we will introduce the 'design is a game' course that we (both authors) have both participated in at least once (as assistant or student) based on the model described above, and then introduce four episodes from the Storytelling Game that will form the basis of our discussion.

Since the user centered design program's inception in September 2001, the first project for incoming students has been titled Design is a Game [9]. During this 10-day course, multi-disciplinary teams of up to 3-4 students engage in a design process from concept development to the production of four identical prototype games. The program begins with playing the 'silent game' [9], a simple brick game that explores design moves, and quickly brings students into teams creating their game concepts and testing their game with others. The course rhythm has two iterations of 'user tests' complemented by skills training in instruction writing and basic modelling. The final game prototypes include a board (when necessary), pieces, instructions and commercial-style packaging. The final presentation is a game playing session with faculty and guests. Both authors have been part of the 'design is a game'

THE STORY GAME PROJECT

The story game project was initiated and managed by one of the authors, a second-year masters student of user-centered design, over a six-month period starting in autumn 2004. The project task was to develop a board game to support the story/storytelling philosophy of a specific author—an approach hailed in his two books as a vehicle for change and success in private and organizational settings. The client had no previous experience with design, per se. He had a specific vision for the game and sought the designer's help to make a tangible representation of that vision for possible use in his business activities.

Client philosophy

The first book of the client's two books about storytelling is mainly visionary, while the second book is meant for those who wish to practice the approach. In the second book, the client/author develops a storytelling theory and a sequence by which people of all walks of life can use to move them into the future. He suggests that the majority of organisations today are stuck in the 'structured universe.' When someone gets a new idea, 'the call,' it starts them, and the organization, on a journey into the 'wheel of narratives.' The next step is to identify the 'controlling thought,' the emotion that drives the idea forward. In order to pass from the 'structured universe' to the 'chaos universe' where the idea development and change will take place, the idea must pass through the 'dragon gate.' The dragon will ask into the main character's motivation for going through with the call. The author suggests that the dragon can be the CEO, family or friends or even the main character himself. Once in the Chaos universe, all the unknown factors within the story arise. 'Helpers' and 'opponents' support and hinder the main character in constructing a future story of the idea. The 'audience' plays the fourth and more objective role. The audience listens to the story while the three other characters construct it. It is the audience's choice whether the idea should move forward or be abandoned. A good story

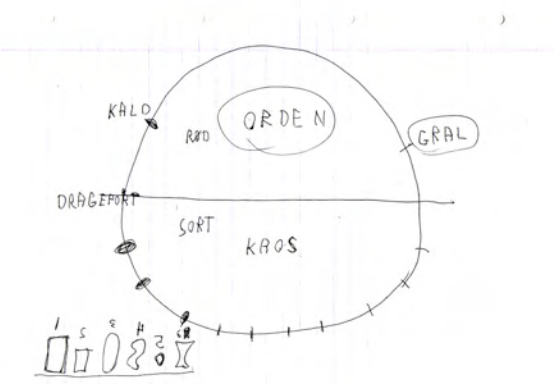

Figure 1. Client's first drawing of his game theory

encourages the audience to stay and listen, while in case of a bad story, the audience gets up and leaves. The audience may be consumers or users of a product, or a manager within an organization. The 'grail' is the insight developed throughout the journey that comes to the main character upon returning to the structured universe. Here, according to the author, the main character can determine if the travel is worth it, will it be a success to realise the journey, and will he achieve the goal he initially thought he would? Once back in the structured universe a new call may arise to once again spin wheel of narratives.

Project process

After the designer had an initial meeting with the client, there were two main periods of activity in the project: (1) two weeks in November when the designer visited two potential 'user'

companies (testing the first concept in one), and had two one-on-one design meetings with the client, and; (2) three weeks in January when the designer invited two other masters students and a first-year PhD student to join her in the project during a period of student-run courses. During this period there were two visits to the client and a game-playing event with potential users in a company. The final board and pieces were delivered to the client in February 2005. For the remainder of the paper, we will refer to the master student as *the designer* (background in industrial design), and the PhD student as *the researcher* (background in anthropology).

Project rationale

The designer initially sought to spend a two-week period in the Story Company[1] as part of a course to explore company practice. She was interested in learning whether storytelling could be useful during her upcoming thesis project. After establishing contact with the company through the Internet and agreeing to a meeting the client to discuss his interest in creating a storytelling game, the designer approached the task of making a game as way to gain access to the company. When the client disagreed to her staying in his 'small' office, she thought that designing the game could be a vehicle to explore professional practice in other companies. Since the project was not complete after the initial 2 weeks, and since she thought it was an interesting project for others as well, she invited three others into the process to further explore the concepts and tackle the task.

Event I – kick-off meeting with client

Before her first meeting with the client, the designer picked an example game, 'Up, Lay, Modify' (see figure 2), from the pool of games just completed by the first-year students of the design program. In this game, three players use wood bricks to build a certain object (i.e. dog, playground, boat). Each player's role is limited to one function: place brick 1 or 2 bricks up-right, place 1 or 2 bricks vertically, or to modify the pieces by changing or replacing 1 or 2 bricks. The game continues until the modifier is satisfied with the object. Upon completion, the players switch roles and play again by picking a new card.

During the meeting at the company, the designer played one round the game with the client and the secretary. They played for approximately 10 minutes. The secretary and the designer cooperated in building of a flower. During the game the designer speculated that the client did not understand the game or that he was disinterested. When reflecting upon the game afterward, the client commented that the game did not have enough excitement and that he had therefore played an antagonist role. The discussion then turned toward the game itself with the client asking whether the students had actually made the box themselves, and he commented on how the game pieces could work well for his storytelling game since they were abstract enough to allow people to relate to, but not too concrete as other fairytale figures he had considered using.

Figure 2. Design game 'Up Lay Modify'[2]

By the end of the meeting, the designer had agreed to build a game for the client and that they would have a meeting at the beginning of the two-week period in November. We will now skip the two weeks when the designer began making a board and pieces, had one co-design session in a company, and had another co-design session with the client. Instead we will focus on the last phase of the project when the design team began working together.

Event II – design team meets client team

Event preparation

After a two-month hiatus from the story game project, four of us formed a design team. We began our work by discussing the project and by playing the game in the state it had been left. We quickly ran into difficulties understanding the logic behind some of the design decisions that had been made between the designer and the client. We then began to explore a variety of options for the game. Additionally, we were a bit confused by how the game would be used. Would someone first need to get an idea to play, or would the game be part of a meeting, or something else? During the first days leading up to our first meeting with the client, there were three major questions we had: (1) How will the game begin?; (2) What is the purpose of the game?; and (3) What is the role of the facilitator? For us to design the board and the figures of the game, we felt we had to develop a sequence for playing. This sequence (instructions for playing) demanded a beginning and an end, each with a scenario in mind. Therefore, since it was the beginning of our own process of working together, we chose to explore a variety of options for introducing storytelling into a game format. We read about various storytelling approaches including from the client's book, others speaking of storytelling in organizations [11], and in design practice [6,10], and we discussed the issues in great detail.

During the first three days of working together, we prepared for the meeting by creating a storytelling game concept that used event cards (see figure 3) each containing an event that could trigger someone to tell a story (press conference, sitting around a fire, giving a speech, etc.). Each card stated the instructions designating the roles of the players and the sequence of actions within the event and a simple drawing symbolizing the event. We had referred to other games and activities from our past experiences and we worked on variations of three basic phases within the activities and when thinking about the overall activity: (1) reflect silently (2) engage in an activity with others, (3) share reflections.

Meeting the clients

We had expected to have an informal meeting with our main client where he would present to us the instructions for the

All person and organization names are anonyms.

[2] Up, Lay, Modify was created by Willem Horst, Sevilay Sezer from, and Lisa Hultgren.

game (as he had promised the designer) and we would present some of our ideas of how to trigger storytelling and dialogue. Instead, upon entering the office, the four of us were invited to sit down at a table set for eight people. After introductions of the other associate and two interns, we were asked to show what we had brought.

We took out our game and four of us (2 clients and 2 from the design team) played through a couple of the cards (I have a story, I have a dream, and Someone's calling). We played for approximately 20 minutes and then we discussed both what we had played and what how the game should actually be. As revealed in the following dialogue, during the discussion the clients conveyed their thoughts that the game was not in line with their ideas, and that we had taken too broad of an approach to storytelling.

> *Intern: I did not get the feeling it was about storytelling. Only in the beginning (holding up an event card), I thought it was about…different forms of communication. You have to be careful not to call everything a story or storytelling…*
>
> *Main client: Yeah!*
>
> *Intern: …because actually there is a precise definition of a story where you have specific elements: plot, beginning, middle with tension, and end."*

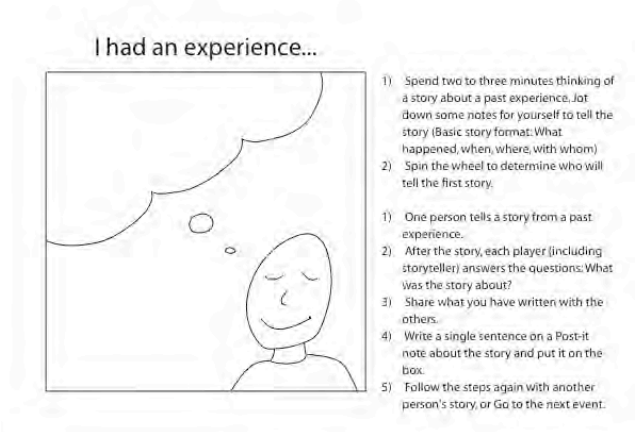

Figure 3. An 'event card' to trigger storytelling

During this discussion, we also attempted to introduce the four different styles of playing that we had envisioned for introducing the specific purpose of playing the session. Each kick-off was represented by a rough sketch and described:

- *idea-based*—one person explores their idea with the help of the others challenging the idea from a variety of angles.
- *story-based*—one person wants help from the others to develop a specific story.
- *story-based II*—each player focuses on one story they would like to explore throughout the game.
- *value-based*—each player identifies values from the "main" story. Throughout the game they create stories based on those values.

It seemed the mood had been set early and any hopes of a 'productive dialogue' had been blocked by the series of communication breakdowns and the format of the meeting. The client felt that we had "gone into a new track which is very different" instead of following the same path he and the designer had first been working on. When we verbally suggested that before moving forward, we needed to imagine at least some possible use scenarios and how the game would begin and end, one participant commented that these were not the important issues and that we had been focusing too much on "output and not outcome." On the other hand, one of the interns said that he and the main client had recently been discussing the possibility that the game could be used as a facilitation tool accompanied by four hours of consulting.

Event III – User session at Bright Co.

Event preparation

Upon returning to our workspace, we (the two authors) felt challenged to move forward with the partial information we had. We delved deeper into the details within the client's book, and based design decisions upon that, the reified comments from the client session, and our numerous attempts to use real situations/stories of our own to play the game. Over two days of work, we tested numerous boards, pieces and styles of playing the game. Our biggest frustrations arose when continually reaching the point when trying to play the game where our design decisions would rely on a single interpretation of how the game could be used and our lack of understanding of the intended use or possible use scenario of the game. In essence, we felt as if we were doing the hard work of making sense of parts of the clients theory he had not worked out in his book.

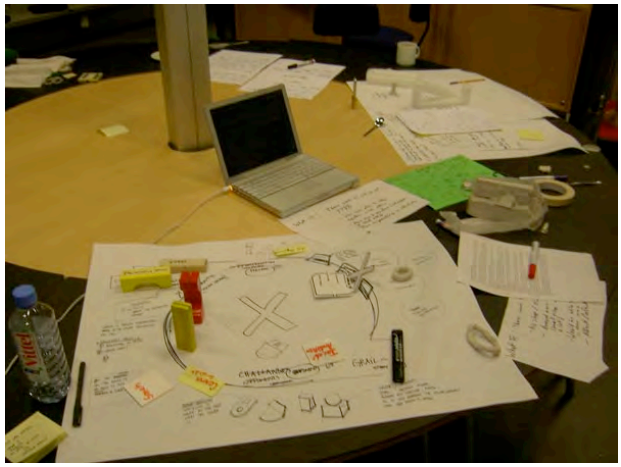

Figure 4. An early model of the Story Game

In preparation for a user test in Bright Co., an international electronic manufacturer and distributor, we created a board, pieces, and a script for playing the game. At this point, our design decisions included which parts of the theory to put into the board, what role the game pieces would play (actual people, characters, or issues), and what would move the game forward. We had found in the storybook that both people and issues could be the opponents or helpers in the story. Therefore, we created Styrofoam pieces that could fit cards so that people could write whether it was an opponent or helper was. We also developed a sequence for playing the game.

Meeting the users

As agreed with our contact in Bright Co, we arrived 30 minutes before the session would begin. We set-up the room and prepared to play and video record. Six company members from different departments attended the session (human resources, accounting, and the CEO's secretary). They came to the session prepared with an issue to discuss (healthcare), and did not expect to benefit directly from the session. They had agreed to participate in order to help us design the game. As pre-arranged, four of them expected to play the game (one male and three females), and two observed (both female). The designer facilitated the session, and the researcher videotaped.

The session began with a ten-minute introduction to the project and the Asked a few questions and then began to play. During the

game however, at times when the players asked the designer specifics about the rules in the structured universe, she said it was open for the players to decide, since the game was still being developed. The majority of the game session was spent in the structured universe. Once in the chaos universe, there was active discussion among the players about the relation to the structured universe and the chaos universe and how a player could not resort to rational logic in the chaos universe. After playing for about one hour, the players stopped and all the participants discussed various features of the game in addition to continuing to speak about the general topic at Bright Co.

During the discussion there was agreement that a strong feature of the game could be for players to act out a role not their own, and thereby be forced to change their perspective while playing the game. For instance, if someone were to be against an idea, they would have to support the idea during the game by playing a specific character. It was argued that this would bring another level of participation into the game and give the players insight into how other people could view an issue. It was also suggested that this was something that could be valuable outside the context of the game.

In the dialogue that follows, we join a discussion about whether players should play a role during the game, or should play from their own point of view.

Sue: Because it [being in a role] forces you to listen.

Carl: Are you by that saying I do not listen?

Sue: I am saying that all of us have an idea that we want to get through and then we forget to listen to others.

Carl: That's why many discussions run off track. People sit and think about what they are going to say next instead of listening to the arguments of other people. That's why there needs to be a facilitator to take care of the debate.

Julia: How do you know that?

Marie: Then before we continue, [Carl] tell what Sue has just said.

Carl: Well, that wouldn't be a bad idea.

Sue: What wouldn't be a bad idea?

Carl: I just repeated what you just told me.

Julia: But, what did she say?

Carl: I can't remember…

---Group Laughter---

In the next dialogue, we join a discussion about smoking in the company. While Carl was talking, Ann picked up two of the human-looking pieces before speaking (Figure 5). She then presented her idea while putting pieces in front of Carl and Sue (Figure 6).

Carl: The only problems with smoking in Bright Co. are the people who smoke up there.

Ann: Wouldn't it be interesting instead of saying you are a smoker and you are a non-smoker, [saying] 'This is a smoker, you will you control him'? Because then we would get beyond the real person and down to the level. Wouldn't it be easier for you to be his voice and argue through him?

Figure 5. Users discuss game modifications

Carl: I can't see the purpose with it. Because I know why this person wants to smoke.

Sue: NO YOU DO NOT KNOW! That's why it would be a good idea to swap the roles, because you are forced to take on the perspective of a smoker. Maybe you have been smoking at some point in your life. But you are saying that you actually know why somebody wants to smoke? But that's probably because you have been reading something somewhere. But that can't always be the full truth.

Figure 6. Users discuss game modifications

Carl: Let's try to discuss it now.

Sue: No! Because now it is turning into something personal.

Carl: No, it shouldn't be perceived as something personal.

Sue: But you're so locked in your way of…

Carl: But maybe I have actually acted more like a non-smoker than I am.

Sue: But you do not listen and that's what I want you to be able to do. And that's why it would be good if the roles were changed.

Carl: OK then, let's try to swap them [roles].

Figure 7. Users write comments about playing session

Event IV - Final design meeting with client

The final design meeting with the client took place at his office between the designer and the client and lasted one hour. The designer introduced to the client to what we saw as the main design hindrances in the project to this point by telling him about some of the outcomes of a Bright Co. session. Among other things, the session had confirmed for us that two important decisions in the development of the game needed to be taken, which only the client could take: (1) Was the game to be a tool for the players to practice telling stories, or a tool for structuring a discussion in a meeting setting? (2) Should the game work as a tool to support the client's storytelling when engaging with people in companies, or should the game in itself should facilitate storytelling.

To make it clear to ourselves and to the client the important design decisions we were facing, the designer asked the client to position his vision of the game on a framework we had created The client placed the game near *structured idea dialogue*, indicating that the game should not work as a tool for the players to learn or practise storytelling while playing the game, but instead they would go through the elements of his storytelling theory and thereby have some guidelines to structure their discussion. But at the same time the client placed the game directly in the middle between the *person as facilitator* and the *game as a facilitator*. This suggested that he wanted the game to work not only as a facilitation tool without any instructions, but also as a stand alone game, which the participants could play on their own. He wanted a tool that could work as a physical representation of his theory that he could use when engaging people in organizations in his theory of storytelling. And he could also imagine it as a game that could work to structure company meetings.

The pieces the designer brought to the meeting we had developed from the belief that the main character, the helper, the opponent and the audience in the game could be either a person, a theme, an authority or a company as described by the book. One way that we had envisioned the game was that, in the game the players would be able to identify the various issues threatening or supporting the idea they were discussing, write each issue on a small piece of cardboard, and attach the cardboard to the individual pieces. This way each opponent or helper would become tangible and people could move them around the board while exploring the issues.

But in this meeting the client removed all the pieces from the game board except the ones shaped as people and stated that these would be sufficient representing the roles of the different players, and that the players could use the cardboard both to write their name and to define which role they were playing. The players would define role based on how they felt about the issue. This way they would play the role from their own point of view through out the whole game.

Product design – synthesizing ideas

It was in this final designing of the game, when the designer worked alone with her design materials, many of the previous issues came forward. She saw her creative design potential in the details of the actual appearance of both the game board and the game pieces. The elements of the game theory were visualized in the game board in a specific sequence. She added some things and changed it around a bit after the final meeting with the client, but she felt she had more significant design potential with the pieces.

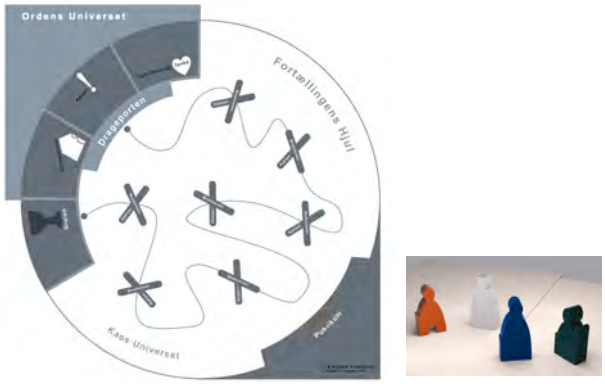

Figure 8: Final storytelling game board and pieces

When designing the game pieces, the designer had room to work with how players would perceive the main character, an opponent, a helper and an audience. She knew from client that the general shape should refer to a person since the players should be able to identify with the pieces. But at the same time, each piece should have unique characteristics from one another. She could have worked with our perceptions of the appropriate shape and colour of the various roles. For example, using associations of red for stop or danger as the opponent or the making the main character taller to indicate his power or overview of the issue. But, using these general perceptions would not allow the individual player to draw upon their own associations for their role. While she was intent on satisfying the wishes of the client, the experience with Bright Co. had made a strong impression upon her. She did not want to prevent people from adding another dimension to the game by relying upon the conventional characteristics of each role. At the same time, it was too early in the process to build a box for the game, as the game was not yet complete.

DISCUSSION – PRODUCT, PROCESS, PRACTICE

In this case we follow a masters-student in a practical project for a client. When we look at the end result as the game board and pieces, this may be a typical design project. But it is within the context of the design education out of which the student has developed her practice and in how she engaged various stakeholders throughout the process that we ask questions of this case. To do this we refer back to the revealing nature of the development/playing combination of design games from Habraken & Gross, using design games to structure collaborative design events from Brandt & Messeter, and the intention of Iversen & Buur of using design game development to teach participatory design to novices.

Unlike these authors, the 'technical universe' of the storytelling game was not complicated to construct. It was the use and the playability of the game, the social interaction surrounding the

game, where the complexity arises. The 'control distribution,' with the added role of the facilitator, added the complexity to the design process, and both influenced and was influenced by the final design of the technical universe.

In-play development

The concept design games offer an interesting model to contemplate. How open or closed to in-play development does the developer leave for the players of a game? In the first event with a game, Up Lay Modify, the instructions of the game only suggest that players change roles and try again once they have finished playing. They do not suggest that the players modify the rules. During play, the client quickly modified his goal to create tension within the game. The designer's initial impression was that he did not understand the game, yet she found out during the discussion that he re-designed the game in order to make it more interesting for himself (so he said). While he did create a strategy, from the point of in-play development, the game was very closed. In a sense, it took breaking the rules to be able to then begin using the client's new approach of adding an antagonist. It can also be said that the program was not shared between the client and the other two players and therefore did create the tension.

In the case of Bright Co., the rules the designer presented to the players required them to follow a sequence in the structured universe, but obliged them to make up the rules in the chaos universe. Some of the players commented that they had been confused when the designer, when questioned, did not provide strict rules at the beginning. The point was raised that it was too difficult to concentrate on the game and negotiate the rules while trying to figure out how to play the game initially. On the other hand, after playing the game, the discussion was stimulated by the idea of further designing the game. During this period, the player's discussion, as portrayed by the example of Carl, Julia, Sue and Ann' dialogue, their attempts to develop the game, and create new roles of the characters, engaged them in heated discussion that did not necessarily bring new revelations about the topic of their discussion, smoking, but they did make explicit Sue's discontent with Carl's all-knowing attitude and inability to listen; possibly more revealing aspect of this is her reference to Carl's perceptions probably formed by reading about smokers. This episode demonstrates the potential designing triggered them to reveal how they communicate and negotiate with each other.

Research through designing or learning by designing

Like Habraken & Gross' group, working on this project together also revealed to us many insights about our own design practice, and presumably about design practice in general. We continually negotiated and defined our own roles, and developed strategies for working together in the design team, as much as developing strategies for engaging the other stakeholders in the project.

One of the insights about involving multiple stakeholders in the design process that became increasingly noticeable to us was our tendency to attempt to ask questions of our client, as well as each other, that would not be revealed without a process, like a conversation with the design material, in order to unveil. In a sense, this was the yes/no questions attempting to bypass the playing of the game that we asked the client, i.e. would you write the instructions, that we could only uncover ourselves by testing the game. In the same vein and often coupled with this approach, was our tendency to essentialize the utterances of others, especially the client, when they were not present. We continually reified and held stable the things that the client said that he wanted, even to the extent that anything that any of the client team had said, we celebrated. We treated his words and vision as if it were clear and stable. Yet we developed our own insights from engaging with each other and our design material.

While this cannot be considered to be bad in every case, it is at the root of the game playing and also at the root of designing for others and listening to users. Which type of information are we using to inform our design decisions? On what basis are we using that information? And how does that inform the subsequent design decisions? Is the role of the designer to merely give users and stakeholders what they ask for, or is there an ulterior motive of the designer, whether due to aesthetics values, a political agenda, or a participatory philosophy that is mediating those design decisions?

By the end of the project we more clearly realized that the client was just as much in need of a design process to further challenge his theory than we had been to create the game and ideas ourselves. The limited nature of the idea-based scenario he wrote for us, just one of the four ideas we had come up with at the beginning of our group work, combined with the shortcomings of people playing their own roles that was also exemplified in Carl and Sue's debate about smokers, gave us a confidence in our decision not to solely build the idea-based scenario into the game and pieces.

Our own insights into game playing and the processual nature of testing theories (you cannot just imagine it and assume it will work), allowed us to make a developer's decision about the openness of the game. We realized that through using his own story theory and the technical universe we provided him, the client might yet come to the point of developing the four scenarios we began exploring at the beginning of our design process. One of the explanations for why he may not have written the instructions he had promised the designer, is that he did not have the design material to engage with and he did not have a process by which to work with the material. Additionally, like we had, the client may have discovered that the concreteness of attempting to put the game into a game format highlighted some of the contradictions and inconsistencies within the text of his book (theory to practice). This supports the powerful form of research that Habraken's group of developers discovered when designing and playing their own games.

The structure of games and designing games

It is the structure brought by the designing of the game, as a board game, that most triggered collaborative designing. In each case, there was a board on the table around which the stakeholders were participating. In the first event with Up Lay and Modify, the second event with the event cards, the third event and the fourth event with the storytelling game board and pieces. The structure of each event was influenced by the idea of playing a game and each event can be considered a design event that influenced the final design concept. But it was the event with the users where the combination of playing and designing games most clearly exemplifies an added value. Here we find value in what the participants did rather than what they told us was important. While they did write their comments about their ideas about the game, it was the revealing nature of not only what Ann said, but how she actually grasped the pieces in order to say it, and the content of their discussions that was most revealing. During these dialogues, the board pieces, and the combination of playing the game and designing provoked the industrialists to reveal valuable insights about their own practice, and the issues important to them.

The design team meeting with the client team was more difficult to both influence and to reveal valuable issues (albeit some important issues). This can partially be linked to the way in which the event card game allowed the players to interact with the design material. It was a spoken word event relying upon intellectual activity rather than the reflection-in-action

triggered by the physical design material. In this sense, we had not provided a structure conducive for further designing the game, but merely set-up a situation where the clients were bound to either like or dislike the game. We attempted to compensate for this by facilitating a conversation, but had little success.

In the case of the first event, the designer brought a finished game, Up Lay Modify, to her first meeting with the client. This finished game provoked three things. It provided a structure to engage with the client in a non-verbal way, that then instigated him to reveal an aspect of his story approach, building tension, it provoked a question about the quality of what the designer could produce, and it kicked off the design discussion when he referred to the abstract pieces. The game was only played for 10 minutes, and one could say that the game playing itself was not the most valuable aspect.

CONCLUSIONS

We find value in the 'concept design game' process of using game development to isolate a specific issue, and continue to explore that issue through various iterations of playing the game and modifying the rules. As Habraken & Gross found in their own development of 9 design games, this development / playing combination reveals previously unexposed concepts that people use in their practice. It was their contention that, by exposing our decision making concepts to each other, we better understand each other's action, and therefore, are better at collaboration. Additionally, by developing and playing, making moves, we continually test our theories.

Where our process departs from the original concept design game project, and Iversen and Buur's appropriation of design games, is both in the players not necessarily being designers, and therefore the discipline specific information not necessarily revealing design issues, and the concept not necessarily having to do with design, and inviting others to play and develop the games with us. Here we find that for each of the three game playing and game designing groups in our project: design team, client(s), and Bright Co. employees, the content (or concepts) being explored differed. This alludes to the idea that the designing, in this case a game, even among non-designers, makes explicit concepts we hold. In this case, those concepts became important for the game development itself, as well as the design team working together with the client.

The previous authors we introduced are experienced facilitators working in HCI and IT development who have facilitated game use in group formats, and during projects involving multiple stakeholders, and to teach design. In this case, we follow a single student, trained in the participatory design process, managing her own practicum for staging collaborative events in industry, aligning a project of her own initiation and based on her true interests with her school courses, and recruiting others to participate in her process. She uses the design game as both a negotiation tool, and as a demonstration of her competence in designing and development. Additionally, she and the others she involves, develop a greater understanding of storytelling, participatory designing, and working with multiple stakeholders in the real world. There is a development of an experimental attitude toward practice that can be traced back to the design is a game course. However, while this attitude and practice have been developed under the umbrella of participatory design of IT products and systems, in this case the product more resembles a standard industrial design project. The structure provided by the games allows the student to learn about the practice of those she is designing for and designing with,

While this case fit nicely with the content of storytelling and the product of a game, we now look how a young practitioner of design can further use this participatory design game model in practical projects with other clients:

- What content can be added to the games?
- What product can we put in place of the game?

We find value in the Habraken tradition of game developing and playing as an investigative tool, and designing for others (usability) sets the stage for involving various stakeholders in the design process. The involvement of others in the design process comes in two very different, but equally important formats. The one is that a game, or product, is being developed and therefore others are asked to participate in the development. But, the Habraken tradition also reminds us that, like a good course, a good game is never complete. The developer has the ability to develop a game that allows continue the development of the game, as a player-developer and thereby experience 'powerful form of research' that comes from the cycle of playing and developing. In this sense, we find the design games to be a valuable tool for young design practitioners to participate in real world practice while learning along the way.

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