Bending Rules, Telling Stories: Convivial Game Design Approaches for Engaging With Futures

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Abstract: Games have been used in civic participation (Lerner, 2014) and civic learning (Raphael *et al.* 2010). Building on the idea of using games for participation, democracy and collaboration, we propose approaching games as tools for convivial learning. First introduced by Illich (1973), the concept of conviviality envisions a society characterised by collaboration and self-determination, underpinned by tools that encourage joyful interaction, creativity and human agency through control over the tools. We believe that games as convivial tools could help bring forth creativity and mutual learning about civic processes and desirable futures. Yet, games' nature as rigid systems of rules (Salen & Zimmerman, 2010) seems potentially at odds with positioning them as tools promoting agency. We propose to use the tension arising between rigidity and agency as starting point for exploring game design strategies for convivial games through *research-through-design*. We ask how games for thinking about the future may be designed that allow players to exercise control over their own experience, and to what effect. Inspired by the concept of critical play (Flanagan, 2009; Grace, 2014) and building on the distinction between *narrative* and *mechanics* as key constituting game elements, we have designed two distinct games for collaboratively engaging with the future. The first, *Narrate*, focuses on letting players invent their own narrative, whilst the second game *Remix* allows for experimentation with game rules and mechanics. We present the design process for each game and contrast the different approaches taken. Each game was tested by two groups and analysed in regards to its capacity to bring forth conviviality, creativity and collaboration. The paper compares and provides a discussion on how suitable the two chosen strategies of experimenting with narrative or mechanics are for (1) facilitating thinking and learning about shared futures, and (2) supporting player agency and bringing forth convivial interactions.

Keywords: Conviviality, Convivial Learning, Creativity, Player Agency, Design Research, Civic Learning

1. Introduction

Over the past decades, games have been increasingly used in civic participation: to engage people in new ways (Rüller *et al.*, 2022), to structure participation or to support motivation to participate in processes such as policy-making or city planning (Ampatzidou, 2019). Scholars have argued that games may not only increase the quantity of participation, but improve its quality, too (Gordon and Baldwin-Philippi, 2014; Lerner, 2014). In this paper, we look at games as means of convivial learning in processes of future-making and civic participation. We examine how they might encourage collaboration and creativity in thinking about shared futures – allowing participants to learn from and through each other whilst playing. Central to participation and conviviality is the notion of human agency, which we find potentially at odds with the idea of games as rigid structures. We use this tension as a starting point for exploration through *research-through-design* (Findeli, 2010): a research approach that falls under the design-based research paradigm (i.e. merging design practice and research) and uses the design process itself to generate knowledge (Christensen & West, 2018; Bærenholdt *et. al*., 2010). Based on the distinction between *narrative* and *mechanics* as means of structuring a game, we designed two analogue collaborative games to explore how games that allow players control over their experience may be designed and to what effect.

We will first explore the concept of conviviality and how it relates to games and learning to frame the role of games and player agency. Then, we introduce our games and present the results of the evaluative sessions for each. We discuss the effectiveness of our design strategies for supporting conviviality, creativity and collaboration for mutual learning and meaningful engagement with futures, and in regards to their potential for supporting feelings of agency.

2. Background

We look at games through a lens of conviviality to help frame how they can facilitate learning in the context of civics and participation. Conviviality was introduced by Illich (1973) and has recently re-emerged, e.g. for imagining post-growth futures (Adloff and Caillé, 2022). In his critique of modern society, Illich urges for society and the tools therein to be built in a way that will encourage and enable each person to freely contribute to it whilst joyfully engaging with others. Such a society would be characterised by interdependence, personal agency and collaboration. Learning in such a society might occur in networks of peers, sharing and creating knowledge

relevant to one's interests (Illich, 1971). Reynolds and Cambre (1997) note how this approach shares similarities with constructivist learning theory, which emphasises learners' experiences, collaboration and problem-solving. Constructivist learning theory is a popular framework in game-based learning studies (Cadiz *et al.*, 2023; Guan *et al.*, 2024). Games – especially collaborative ones – can facilitate experiences in which players contribute individual knowledge, learn about others' perspectives and co-construct meaning.

Various games for civic learning and engagement, particularly in the digital realm, have been designed and evaluated in recent years (Hassan & Hamari, 2020; Stoddard *et al.,* 2016), and some researchers have argued for the consideration of video games for civic learning (Schrier, 2021; Dishon & Kafai, 2019). Whilst projects such as iCivics, that aim to teach civic concepts through games in the classroom, e.g. how public budgets or legal systems work, have been received positively, Stoddard *et al.* (2016) point out that they still fall short in regards to developing civic skills like deliberation or complex decision-making. In a similar vein, Ampatzidou (2019) characterises civic learning as a complex process of social interaction in which people exchange information and views, negotiate and make joint decisions. We believe these ways of engaging with others to be fruitful in the context of thinking about shared futures, where games might help turn conversations about potential futures into meaningful and joyful learning experiences.

Yet, applying the idea of conviviality to games as tools in civic or participatory contexts raises certain questions around agency: Illich (1973) emphasises the idea of control over tools and creativity in using them. This seems somewhat at odds with Salen and Zimmerman's (2010) view of games as having rigidity and being systems of rules. Raphael *et al.* (2010) describe this conflict between structure and agency as one of the central tensions in game design for game-based civic learning. We acknowledge that this might potentially be addressed by rethinking how prescriptive games' rules really are. However, we weight this against the notion that it is the accepting of rules that is important to the creation of the 'magic circle'. Whitton (2018, p. 4) explains: *'This ability to enter a world of make-believe and accept alternate rules and realities is crucial to setting free the imagination and considering the possibilities for what might be and the potentials for what should be.'* This seems vital to creatively engaging with futures (Coulton *et al.*, 2016) and freely making own contributions, as the conviviality concept suggests. Therefore, we propose to address the tension between freedom and rules through the generative means of design research by asking how games may be designed that implement control over the game's structure into the system. Thereby, we hope to contribute to connecting the field of design research with game design (Malazita & O'Donnell, 2023).

What constitutes as structure of the game is a topic of debate: most scholar agree that rules, mechanics and goals structure the play experience (Salen and Zimmerman, 2010; Upton, 2017). The question of their relationship to narrative is still being discussed, with the view that they are deeply interconnected emerging (Suter *et al.*, 2021; Upton, 2017). Whilst the distinction between narrative and mechanics may to some extent be rooted in how games have been analysed in the past (oftentimes informed by either media/textual or game design perspective), Caillois (2001) has argued that both can structure a playful situation and invoke the magic circle. Therefore, it seems that narrative and mechanics could be two ways of approaching game design for increased player influence over game structure: by making space for players to contribute to the story or to alter the rules.

Alternative ways of thinking about games have emerged in the field of 'critical play'. Flanagan (2009, p. 6) conceptualises it as a mode in which players *'create or occupy play environment and activities that represent one or more questions about aspects of human life'.* Grace (2014) points out how games can be used to articulate critique directed at society and at the medium itself through various strategies. Those can go beyond the game by encompassing player values, environment or game device. Flanagan's and Grace's positions show some overlap with civic (game-based) learning wherein players reflect on and engage with matters of civic life. The reflection and critical thinking sparked through playful experiences have the potential to facilitate learning (Gordon and Baldwin-Philippi, 2014). Interestingly, such strategies as putting the game's goals at odds with player values broaden the understanding of what games are composed of to encompass the player, too. This aligns with Upton's (2017) situational view on game design: he argues that games become playful in interaction with the player. Hence, we propose that increased player agency may deepen interaction between game and player and make the experience more impactful. Furthermore, Brown and Douglas (2010) have argued that experimentation and the experiences it brings forth are what makes play an effective way of learning. Therefore, we propose that convivial games for civic learning and engaging with futures should be designed in ways that allow for creative input and experimentation by the players.

3. Developing two Convivial Game Proposals

To explore what such games may look like, we utilised a *research-through-design* approach (Findeli, 2010), which interprets the design-based research paradigm by employing the *designing* of artefacts as part of and mode of inquiry (Christensen & West, 2018; Bærenholdt *et. al*., 2010). Hence, we lay out our design strategies and reflect on them. As outlined above, there is a tension in game design between narrative and mechanics. We took these two sides as entry points into design exploration and designed two games – *Narrate* and *Remix* – that allow players to experiment with and contribute to the story or game mechanics.

We aimed to find strategies to address the objectives of (1) facilitating thinking and learning about shared futures, and (2) supporting player agency and bringing forth convivial interactions. Thereby, the second objective is two-fold, including the aspects of player agency and collaboration. Considering the interconnectedness of game elements and our desire to explore narrative and mechanics in-depth, we designed two independent proposals rather than creating two versions of one, with each using different design strategies to address the objectives (tab. 1).

Table 1: Overview of chosen design strategies

Objective	Narrate	Remix
1. Facilitating thinking and learning about shared futures	Setting, selecting and negotiating the future	Engaging with future goals
2a. Conviviality through agency	Co-creative, experimental storytelling	Bending and inventing rules
2b. Conviviality through collaboration	Collaborative decision-making	Collaborative gameplay

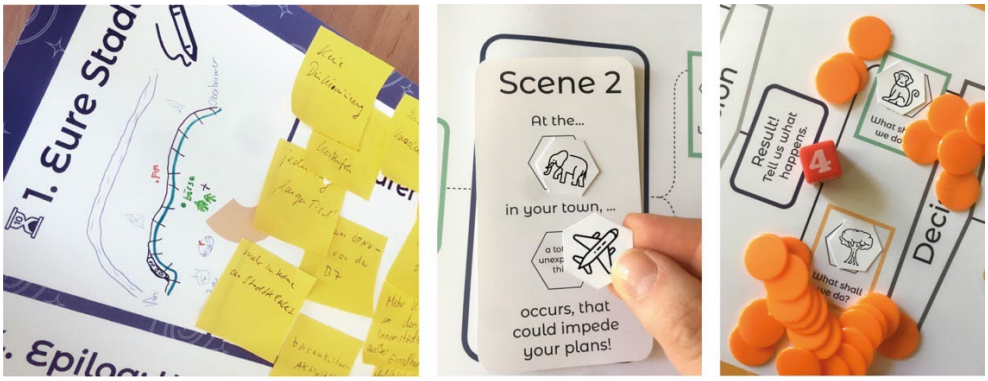
3.1 Telling Stories: Narrate

Narrate is a story-telling game in which players co-create a story about the future of their town, working within fixed rules. We based *Narrate* on a previous storytelling game for thinking about the future (Meshcheryakova & Hemmert, 2023), adopting its basic collaborative story-telling structure and creative scaffolding elements, and added a preparation stage that helps anchoring the game to participants' local issues and new decision-making mechanics.

Setting, selecting and negotiating the future: To anchor the inventive storytelling process to players' real lives, they are asked to collaboratively draw their respective town on the game board and then collect ideas and wishes they have for its future (fig. 1 (a)). One idea is selected as goal for the story they then develop, exploring what it could mean for their future, others' thoughts on it and its potential realisation.

Co-creative, experimental storytelling: The players then take turns to co-develop a story in which they overcome obstacles to achieve the goal. As in the game we built on (Meshcheryakova & Hemmert, 2023), *Narrate* provides a structure of scenes with cloze-style prompts and a variety of pictograms to guide and support players in developing their story (fig. 1 (b)). Randomly selected pictograms such as animals or everyday objects are used to help players imagine scenarios going beyond the expected. By dividing the story into sections, creativity challenges are distributed. Through coming up with their own story, this game encourages players to feel a sense of agency and investment in it.

Collaborative decision-making: Players work together towards achieving the goal selected for their story. At certain points, players need to jointly decide between two proposals of how to move the story forward by placing voting chips (fig. 1 (c)). We combined voting with rolling dice to determine numerically if a chosen action has a positive or negative outcome. In doing so, we hoped to encourage discussion and reward group cohesion (i.e. the more votes are placed on one option, the more likely a positive outcome will be).



(a) (b) (c)

Figure 1: *Narrate* details (a) game board with participants' drawing and ideas, (b) cloze-style promt, (c) voting with coins and dice (icons in images adapted from Flaticon)

3.2 Bending Rules: Remix

Remix is a card-game in which players collaborate to reach certain *goals* for the future (within fixed game content), whilst having the opportunity to invent their own rules and manipulate game mechanics. To develop the game, we examined games that allow to *play* with and invent rules, such as 'Fluxx' (Looney Labs, 1996) and 'Blank' (Hub Games, 2017), combining some of their mechanics with a framing of thinking about the future. In *Remix*, players draw cards, use actions and adjust rules to achieve goals through collecting the two symbols ('*elements*') required for each. The game finishes after four rounds with five goals each.

Engaging with future goals: A central challenge in designing this game was balancing the concept of flexible rules and fixed content with engaging with the future. We addressed this by having players choose and mark their favourite goals, which would then be privileged by game mechanics (fig. 2 (a)). In the beginning, each player selects their favourites from a number of potential goals for the future, some of which lean agreeable, e.g. improved health-care, and others more controversial, e.g. humanity living in space. Later on, when players 'nominate' a goal as one of those to be achieved by placing the card on the game board, they explain to the others what it would mean for society, fostering engagement with the content.

Bending and inventing rules: The game uses two levels of rules – those that frame the overall objective, such as achieving goals through collecting elements, and operative rules that refer to what players do within a turn, e.g. how many cards to play or when to draw one extra. Operative rules are represented on cards that players can play out, thus changing the rules in a dynamic fashion during the game. At a later stage, blank cards are introduced that invite players to invent their own rules that then get implemented, aimed at creating a sense of agency (fig. 2 (b)).

Collaborative gameplay: Players complete the game as a team. Tension comes in the form of '*crises*', i.e. cards that block goals, to be resolved together (fig. 2 (c)). Hence, players are put in a position of playing against the deck, not each other. This is underscored by featuring numerous action cards that benefit more than one person, e.g. giving extra cards to others or exchanging resources.

(a) (b) (c)

Figure 2: *Remix* details (a) nominating goals, (b) placing rule cards on the game board, (c) overcoming crises (icons in images adapted from Flaticon)

4. Evaluation

Each game was evaluated by two groups ranging from 3-8 persons per session, with 5 who played both games and 12 that played just one. Participants were aged between 17 and 74 with an average age of 38 and a 13:4 female to male ratio. To recruit participants, we collaborated with two local civic organisations: a centre that acts as platform for citizen and cultural initiatives, and an initiative that organizes cultural offerings primarily for Ukrainian families and refugees. Both invited members of their communities to our sessions (fig. 3), which were conducted in German and Russian by a native-speaking researcher who acted as facilitator. The sessions lasted for 2-3h including obtaining participants' informed consent, playing one of the games and a semi-structured focus group interview. In the latter, participants were asked to discuss their experiences, thus opening up space to engage in collective sense- and meaning-making. Considering the importance of reflection in playful civic learning (Gordon and Baldwin-Philippi, 2014), we see the reflection which occurred at this stage as part of the overall learning experience.

Audio recordings of the focus group discussions were transcribed verbatim and analysed, along with observation notes, applying thematic content analysis (Gareth *et al.*, 2017) in a deductive way, following the method described by Braun and Clarke (2006). The design strategies were used as 'theoretical' overarching themes, allowing us to organise the data along these strategies and relate participant experiences to them. We approached the data with those aspects in mind and, after reviewing it in full, used semantic coding to generate initial codes (Braun & Clarke, 2006) in the software MAXQDA. These codes were then repeatedly reviewed and organised in an iterative process of developing a structure of sub- and overarching themes from which descriptions and interpretations of participant experiences could be constructed.

(a) *(b)*

Figure 3: Participants playing (a) *Narrate* and (b) *Remix*

4.1 Key Results

4.1.1 Telling Stories: an Effective Mode of Engaging With the Future

Participants playing *Narrate* developed multi-faceted stories set in their town and found inventing stories with the help of creative scaffolding to be engaging, frequently stating that they felt it '*opened up*' their minds. The stories featured elements ranging from mundane (a city planning meeting) to unconventional (using zoo animals to improve public transport or AI conducting a strike). The game had participants switch between thinking individually and expressing ideas or making decisions together. Participants felt that this rhythm supported not only learning *about* others' ideas, but also about *how* they view certain concepts. For instance, the concept of time felt intuitive to use as an obstacle for one participant, but surprised another who later reflected on time being a blind spot of theirs. Generally, participants reported enjoying observing what desires others had and how they built on ideas.

Participants voiced mixed feelings about using coins to make decisions, with some of them appreciating this as a system of collective decision-making in its own right, whilst others were confused about their impact. Some also felt that there was no way to lose the game, as high cohesion made the risk of a negative story outcome dismal. They missed elements of risk, finding some aspects of decision-making arbitrary.

Overall, participants felt engaged by co-creating a story and reported having meaningful interaction with the group, e.g. stating how they appreciated hearing views from different age groups. Anchoring the game in the participant's town allowed for them to relate to the story on a personal level, frequently reflecting on what certain turns in the story would mean for their lives.

4.1.2 Bending Rules: Shifting the Focus to Game Mechanics

Remix attempted to direct participants' creative thinking towards its rules. Whilst some participants reported enjoying hearing how others viewed certain goals, e.g. discussions around which goals relating to climate change are more impactful, the content faded into the background over time with focus shifting to the mechanics. Some participants noted that they initially felt tension when contemplating to 'nominate' goals they disliked for the sake of tactics, but would increasingly do so anyway.

Participants made little use of the ability to manipulate the game's rules. In both sessions, once a rule that participants felt suited the group's needs had been invented, no further attempts to come up with more were made. The game's visual design and embodied interactions with the cards were found to be engaging, but participants reported feeling low personal involvement. For instance, when in the second sessions a player left early and was replaced by another person, others felt this had little effect on the game. They voiced that the collaborative nature of the game made individual decisions feel unimportant. This may be related to how participants would increasingly make decisions together, feeling that collaboration superseded their personal responsibility. When asked about feelings of control, players that had taken advantage of inventing rules replied more positively than others, but generally answers skewed towards low feelings of control.

In the focus group interview, many of the participants presented and co-developed a myriad of complex ideas on how the game could be made more interesting, including adding complexity to the goals, a scoring system to make individual contributions visible or hidden player roles. Overall, suggestions focused on increasing feelings of impact or making the game more closely reflect the complexity of future-making in the real world.

5. Discussion

We initially framed players' influence on narrative or mechanics as two potential ways of realising increased player agency for convivial games that enable civic learning about futures. In designing and evaluating the resulting games, we have found these approaches to be unequal. Playing with narrative allowed participants to engage with ideas about the future and each other in meaningful ways. Playing with mechanics resulted in an experimental game that was more difficult to navigate – rather than enabling substantial amounts of own experimentation that would have sparked discussion and learning. Directing player's attention *and* creativity toward mechanics proved a great challenge, as the open nature of the game at times resulted in a disjointed experience. Having players choose whether they want to apply new rules was intended to give them choice, but resulted in participants focusing on optimisation rather than experimentation. Here, *Narrate* was more successful due to its heavier reliance on player input, making meeting the creative challenge vital. A great focus on game mechanics led participants to engage less with the content in *Remix*.

Brandt *et al.* (2012) have proposed *telling, making* and *enacting* as modes of engaging with futures in participatory design. It seems that the mode of *telling* worked well when applied to a convivial game, as it allowed participants to co-produce meaning and seemed to make for a more universally accessible way of connecting with a topic. Although *Remix* featured some elements relating to *making*, this was not fully realised in the game as it still relied on pre-defined content and overarching rules to make it so it can still be played as a game. We find it particularly interesting that while participants made little use of the affordance to invent rules, many of them expressed and co-developed a multitude of creative game ideas in the subsequent focus group interview. This may indicate that the game's affordances did invite participants to think creatively about the game, but provided too small an outlet for their ideas. It also highlights the value of providing space to reflect and make sense of an experience together.

Through the evaluation and the design process, we have seen that it is difficult to evoke strong feelings of personal agency in collaborative games. It may be worthwhile to consider alternative ways of framing agency other than 'freedom of choice' to explore this further. Tanenbaum and Tanenbaum (2010) have suggested broadening the view of agency to include players' decision on whether engage with the narrative and allow themselves to be emerged within it. Following this, it seems that co-creative storytelling and decision-making could be effective in getting players to commit to narrative and experience strong feelings of agency that could

serve to facilitate meaningful learning. Overall, participants' responses seem to support that engaging with the story produced stronger feeling of agency than making decisions on tactical actions and rules.

6. Conclusion and Future Work

We tested two approaches for convivial games for thinking and learning about the future in a civic context. We found focusing on player-generated narrative a more impactful approach for generating feelings of agency than allowing players to influence game mechanics, as the former fostered meaningful engagement among the groups and learning about each other's views. Conviviality proved a useful framework in the design process for considering how certain design strategies facilitate collaboration, agency or creativity and could help designers looking for frameworks to move games for learning in an engaging direction in the future.

For researchers aiming to explore the idea of 'bending rules' in games for thinking about the future, we recommend that many instances of discussion be built into games. It were those instances of dialogue in which participants felt they could most meaningfully engage in learning about others' ideas and views in our study. Furthermore, researchers could lean more into the aspect of *making* by – rather than having participants complete a game – allowing sessions to flow into game-making workshops. Therein, participants could further develop the game, experiencing increased agency through *making,* and find opportunities for experimentation and deep reflection.

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