

Game on: Exploring Game-Based Tools for Citizen Engagement in Climate Research and Policy

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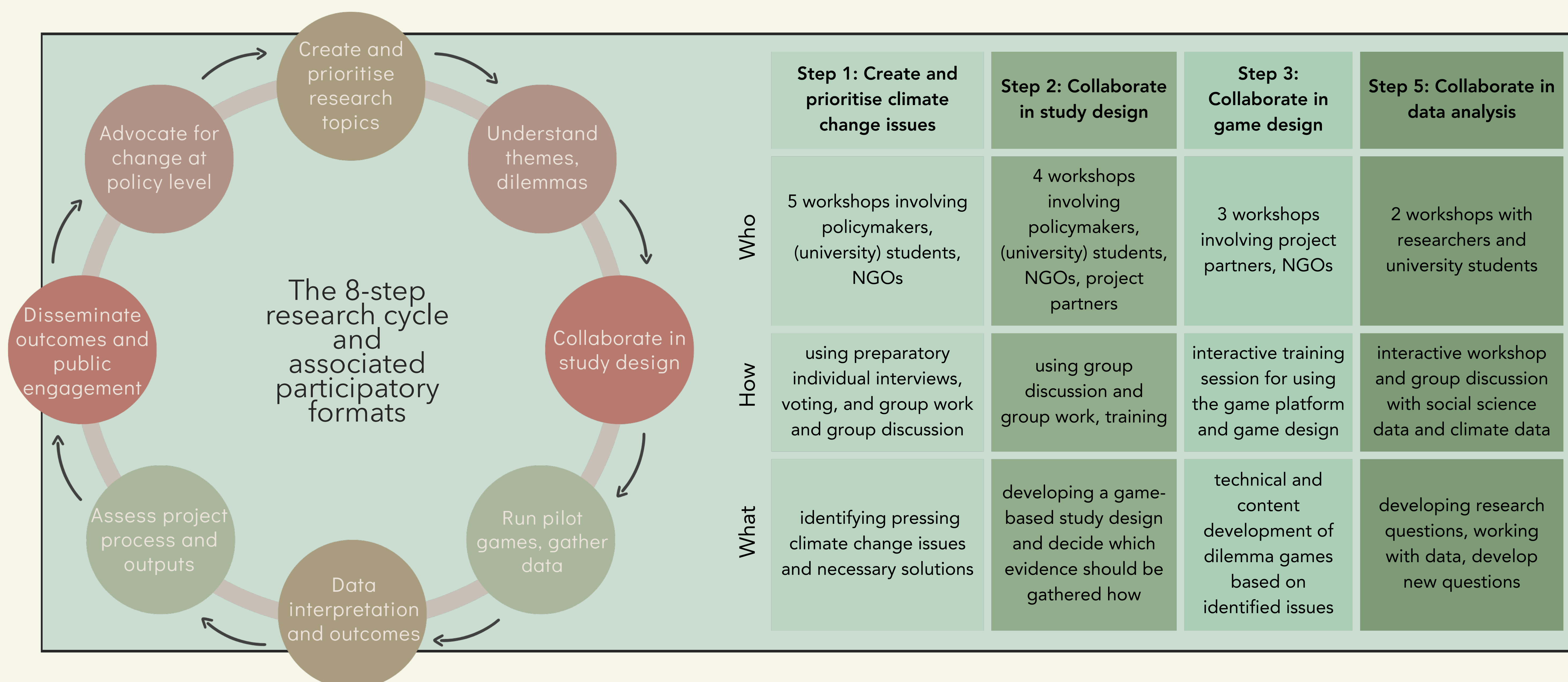
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Introduction

- To address the climate crisis effectively, we need new methods for citizen engagement [1],[2].
- Games and game-based interventions show potential for improving citizens' engagement with climate change and political participation [3],[4].
- Combining these findings, we introduce a participatory, game-based method for engaging the public in climate change research and policy dialogues.

Methods

- Our methodology investigates the potential of game-based tools in an 8-step **research cycle**.
- In each step, we engage with citizens and/or policy stakeholders via participatory formats.
- So far, we have implemented **participatory formats** for **four steps** in this research cycle.
- These formats are **pilot activities** and will be improved in future work.



Preliminary Results

- Stakeholder engagement beyond the first step is challenging without stakeholders' awareness of a need for our approach, highlighting the importance of managing expectations and time needed for the process.
- An engagement gap exists where researchers and policy stakeholders are compensated for their time, whereas citizen participation is voluntary, posing challenges in participatory approaches.
- Transforming real concerns into a game logic is challenging. This challenge can lead to a decrease in citizen engagement and increase researcher dominance in the participatory process.
- The more insights and knowledge stakeholders have about their chosen issue, the easier it is to turn it into a game.
- Data sprints show potential for participants to interpret data and develop new ideas yet pose difficulties for those unfamiliar with data. To be effective with diverse groups of citizens, data sprints require thorough preparation, knowledge of the data as well as of participants' needs, and effective visualisations by facilitators.

Conclusion & Outlook

- Our pilot activities suggest potential of games for citizen engagement with climate change, but more experimentation and reflection is needed.
- Managing participants' expectations is crucial. When engaging citizens and policy stakeholders in game-based interactions, their roles and room for agency needs to be clear.
- We see a potential for the transferability to other societal challenges, such as those related to the SDGs. As we have experienced in our very diverse cultural settings, the approach can be rolled out globally.

Related Literature

- [1] Albert, A., Balázs, B., Butkeviciene, E., Mayer, K., & Perelló, J. (2021). Citizen Social Science: New and Established Approaches to Participation in Social Research. In K. Vohland, A. Land-Zandstra, L. Ceccaroni, R. Lemmens, J. Perelló, M. Ponti, R. Samson, & K. Wagenknecht (Eds.), *The Science of Citizen Science* (pp. 119–138). Springer International Publishing. https://link.springer.com/10.1007/978-3-030-58278-4_7
- [2] Kythreotis, A. P., Mantyka-Pringle, C., Mercer, T. G., Whitmarsh, L. E., Corner, A., Paavola, J., Chambers, C., Miller, B.A., & Castree, N. (2019). Citizen Social Science for More Integrative and Effective Climate Action: A Science-Policy Perspective. *Frontiers in Environmental Science*, 7, 10. <https://doi.org/10.3389/fenvs.2019.00010>
- [3] Fernández Galeote, D., Rajanen, M., Rajanen, D., Legaki, N.-Z., Langley, D. J., & Hamari, J. (2021). Gamification for climate change engagement: Review of corpus and future agenda. *Environmental Research Letters*, 16(6), 063004. <https://doi.org/10.1088/1748-9326/abec05>
- [4] Gordon, E., & Baldwin-Philippi, J. (2014). Playful Civic Learning: Enabling Reflection and Lateral Trust in Game-based Public Participation. *International Journal of Communication*, 8, 759–786.