

# Encouraging Empathy of Neurodivergence: Towards a Framework for Design of Persuasive and Discursive Games

Nadine Garland, Jane Turner, Nicole Vickery

Queensland University of Technology

Kelvin Grove, QLD, 4059

[garlandn@qut.edu.au](mailto:garlandn@qut.edu.au)

## Keywords

Discursive & Persuasive games, Narrative board games, Neurodivergence, Empathy

## INTRODUCTION

For neurodivergent students, university environments can provide a unique set of challenges (Rivera, 2022). Neurodivergence can be described as a divergence in neurological or mental function from what is considered normative (Alix, 2023). Whilst many students may struggle with symptoms of Neurodivergence, they may not recognise these difficulties as a potential disorder. This lack of recognition may be due to several reasons, including access to finances, education and services (Ghanouni et al., 2023). Unfortunately for these students, due to typical university processes which support a positive discrimination bias towards students who have a *formal* neurodivergent diagnosis, undiagnosed students who exhibit neurodivergent behaviours may be shown less tolerance (Heasman, 2019).

Whilst at its core, this is a systemic issue, we as a community should be focusing on what we can do to create more safe and inclusive educational environments for all neurodiverse people. To create environments where compassion and tolerance are central, it is vital to foster a strong foundation of understanding and empathy. According to recent literature (Clement, 2023; Mackey, 2023; Ndulue & Oriji, 2023), cultivating this foundation may be achieved through the use of *persuasive* and *discursive games* (da Rosa Faller, 2020). This paper will explore the potential of narrative board games to integrate discursive topics and generate persuasive outcomes to guide the design of a game for neurodivergent awareness.

Bogost explored the topic of persuasive games - games which are deliberately designed to engage players in critical judgement or to explore issues - and their viability as a persuasive medium (2007, 1). Persuasive games tend to utilise influence or manipulation, while discursive games convey ideas, creating opportunities for

Proceedings of DiGRA Australia 2024

© 2024 Authors & Digital Games Research Association DiGRA. Personal and educational classroom use of this paper is allowed, commercial use requires specific permission from the author.

discourse and self-reflection (da Rosa Faller, 2020). This study hopes to utilise the intersection between these two design fields, to produce a game that creates opportunities for discussion, self-reflection, empathy and behavioural change.

To design a game using this intersection requires an understanding of how discursive topics (like neurodivergence) can exploit the ‘magic circle’ of play or safe space (Huizinga, 1949; Masden & Rasmussen 2021) and be integrated into a narrative board game. According to Salen & Zimmerman (2003), to integrate discursive topics<sup>1</sup> effectively, designers must comprehend games as emergent systems; their role is not to directly shape the experience, but rather to design the system that provides opportunities for the experience to occur.

We have developed a game analysis framework (GAF) based on Reeves (1994) evaluation of educational software systems (see Fig. 1) which was used to analyse pedagogical dimensions of computer-based education to measure their capabilities. Using this framework we have separated board game elements into two categories: immersion and engagement. For the purposes of this study, immersion refers to game elements that assist in the suspension of disbelief (narrative and character depth) or are sensory (visual, tactile or auditory stimulus). Game elements in the engagement category encourage active player participation and emotional investment, these include: interaction (competitive or cooperative), agency, motivation, rules, mechanics, and challenge. Using this framework (see Fig. 2), several popular board games have been analysed to gain insights into each of these elements to inform design.

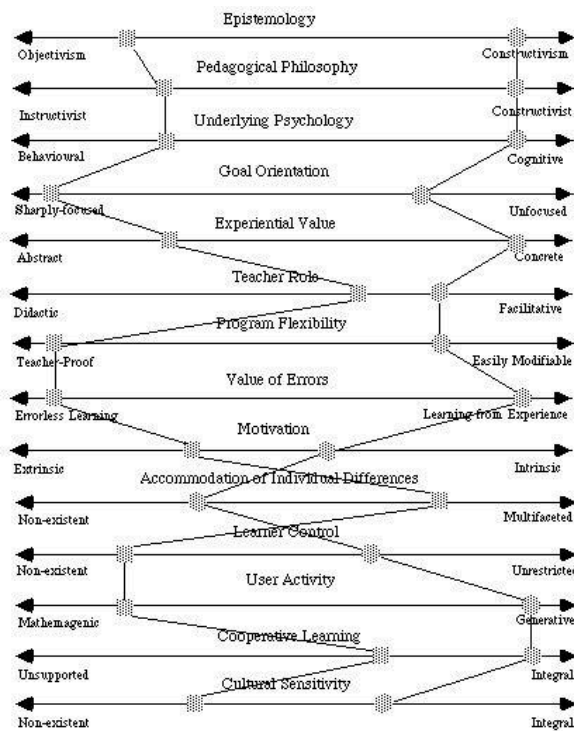


Figure 1

# Game Analysis Framework



Figure 2

A key focus at the moment is narrative. Whilst each of the elements in Fig. 2 possess persuasive potential, narrative, has the ability to put players in the role of others to encourage empathy and understanding (Bogost, 2011), has substantial potential for generating long-term attitudinal change and has been relatively underutilised (Lee et al., 2022; Mackey, 2023; Ndulue & Oriji, 2023). In addition to the GAF, a version of de Rosa Faller’s (2020) discursive framework is being used to intentionally tie neurodivergence to the game elements.

Whilst the realm of *digital* persuasive and discursive games is well documented, according to a recent meta analysis, exploration into the analogue formats, particularly *narrative* board games, is limited (Ndulue & Oriji, 2023; Clement, 2023). The board game format allows for rapid prototyping and simpler iterative design processes than its digital counterparts (Clement, 2021, 79). Over the course of a year, the game being designed for the project will require tweaks and refinement based on revisions and feedback from a number of sources, so the efficient iterative design processes provided by this medium will be pivotal.

This paper details the preliminary findings and design process of a research project exploring the intersection of persuasive games, discursive games, and narrative board games. Gathered research outlines the exceptional potential of generating discourse, self-reflection, empathy and behaviour change by designing artefacts that utilise this unique intersection of game development.

## BIO

**Nadine Garland** is an educator in Interactive Narrative Game Design at QUT, and currently undertaking a Masters of Philosophy focusing on tabletop game design. Her research experience is in narrative and mechanics design and for tabletop roleplaying games. Her projects aim to generate positive social change through emergent narrative and social play.

**Jane Turner** is a game and interaction designer, educator and researcher. Her research focuses on criticality, meaning making and experiential placemaking. She is interested in the material and cultural aspects of game designing and the ways that design and designing are mimetic 'storying' practices.

**Nicole Vickery** is a researcher and educator of games and design. Vickery's interests lie in exploring playful interactions with digital technology. Her current research examines how tangible, embodied, and embedded technologies can be designed to encourage children to engage in active play and nature-based play.

## ACKNOWLEDGMENTS

This research is supported by QUT's Design Lab who have provided a living stipend scholarship for the duration of this project. Special thanks to Dr. Jane Turner and Dr. Nicole Vickery as supervisors for the project.

---

<sup>1</sup> Any topic that may be perceived as controversial, difficult, poorly understood, against social norms, or political.

<sup>2</sup> Refers to the state of mind where players suspend their disbelief and accept rules and limitations of the game, originally proposed by Bernard Suits (1967).

## BIBLIOGRAPHY

Alix, S. 2023. The Neurodiversity Handbook for Teaching Assistants and Learning Support Assistants :

A Guide for Learning Support Staff, SENCOs and Students. (1st ed.). David Fulton Publishers.

Bogost, I. 2007. Persuasive games : the expressive power of videogames. MIT Press.

Bogost, I. 2011. How to do things with videogames. University of Minnesota Press.

- Chandler, D., & Munday, R. 2020. *A Dictionary of Media and Communication*. Oxford: Oxford University Press, Incorporated. ProQuest Ebook Central.
- Clement, R. 2021. Playing with the Kitchen Table: Using persuasive games to promote empathy for persons with anaphylactic food allergies. *Journal of Gaming & Virtual Worlds*, 13(1), 75–92. [https://doi.org/10.1386/jgvw\\_00029\\_1](https://doi.org/10.1386/jgvw_00029_1)
- da Rosa Faller, R. 2020. *Expanding the Magic Circle and the Self: Integrating Discursive Topics into Games*. ProQuest Dissertations Publishing.
- Ghanouni, Parisa and Liam Seaker. 2023. "What does Receiving Autism Diagnosis in Adulthood Look Like? Stakeholders' Experiences and Inputs." *International Journal of Mental Health Systems* 17:1-10. doi:<https://doi.org/10.1186/s13033-023-00587-6>.
- Heasman, B., & Gillespie, A. 2019. Participants over-estimate how helpful they are in a two-player game scenario toward an artificial confederate that discloses a diagnosis of autism. *Frontiers in Psychology*, 10, 1349–1349
- Huizinga, J. 1949. *Homo ludens. A study of the play-element in culture*. (R. Hull, Trans.). Routledge & Kegan Paul.
- Mackey, C. N. 2023. *Perceptions of Skill Transference from Dungeons & Dragons to Personal, Social, and Work*. ProQuest Dissertations Publishing.
- Madsen, K. M., & Rasmussen, M. H. 2021. *A Matrix for Gamifying Development Workshops. Interactivity and Game Creation*, Cham.
- Ndulue, C., & Orji, R. 2023. Games for Change-A Comparative Systematic Review of Persuasive Strategies in Games for Behavior Change. *IEEE Transactions on Games*, 15(2), 121–133. <https://doi.org/10.1109/TG.2022.3159090>
- Reeves, T. 1994. *Learning with software: pedagogies and practices Evaluating What Really Matters in Computer-Based Education*. University of Georgia.
- Rivera, H. R. 2022. *The Intersection of Gender Diversity and Neurodiversity: How to Support Gender Diverse Youth and Young Adults on the Autism Spectrum in the Educational Setting*. ProQuest Dissertations Publishing.
- Salen, K., & Zimmerman, E. 2003. *Rules of Play: Game Design Fundamentals*. MIT Press.
- Suits, B. 1967. What Is a Game? *Philosophy of Science*, 34, 148-156. <https://doi.org/10.2307/186102>