

Beyond Collaboration, Cooperation, and Competition: A Typology of Player Goals in Games as Metaphors for Life

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Abstract: Some games have educational value as metaphors for socially complex real-world situation such as war, espionage, resource management, teamwork and community life. In part, the educational success of these games depends on providing goals that align players' motivations and interactions with corresponding realities. Traditionally goals like collaboration, cooperation, and competition have been used to support gameplay, however new kinds of games have arisen recently, including semi-cooperative, meta-collaborative, and traitor games, suggesting that the range of possible game formats is more nuanced. To make sense of this emerging space of game types and to link game formats to player experience, this poster describes a typology of games that focuses on interdependence between players and categorizes features such as goal states that might contribute to players' ability to relate what they learn from in-game interactions to external contexts.

Introduction

Game theorists have traditionally separated games into two broad categories: cooperative and competitive. In the first decade of the 2000s tabletop collaborative games became increasingly popular and Zagal *et al.* (2006) emphasized the importance of considering a distinct third category: collaborative. While these three basic categories describe many of the games on the market today, the growing popularity of semi-cooperative, metacollaborative, and traitor games suggests the need for a more nuanced examination of player interdependencies in different game formats and their affordances for learning and research.

A number of other ways to categorize games exist, and many of these are beyond the scope of our focus on player interdependencies. These include: by *platform* (e.g. tabletop vs. electronic, console vs. PC), by *complexity/time commitment*, *casual vs. not casual*, by *mechanic* (e.g. press your luck, trick-taking, roll the dice), and by *genre* (simulation, strategy, racing, puzzle, role-playing game, economic, etc.). A number of such game typologies have been developed including Aarseth *et al.*'s multi-dimensional typology of games (2003), Elverdam and Aarseth's game classification system (2007), Djaouti *et al.*'s G/P/S typology for serious games (2011), and Järvinen's (2003) typology of rules. All of these typologies are more general than our specific focus on how goals and mechanics can relate to social experiences in realistic situations.

To aid in the design, selection, and study of games that afford players opportunities to learn things they can productively apply to contexts outside of games, we suggest a detailed game typology based on an analysis of characteristics that influence player social experience. With tabletop games as our focus, we aim to show how particular combinations of goals and mechanics can support the simulation and emulation of real-life motivations across socially complex situations such as war, teamwork, resource management, espionage, business negotiations, and community life. This typology could potentially be used to map relationships among established and emerging game types, to locate gaps in current game design where novel game types could be developed, and to help in the design, selection, and study of educational simulation games.

Methodology

We take as our starting point the way the commonly used categories *collaborative*, *cooperative*, and *competitive* describe how particular rules and mechanics create affordances for behavior, thinking, and affective experiences that have real-world correlates in situations that include teamwork, resource management, and war respectively (Zagal *et al.* 2006). From this starting point, we examine foundational attributes of each of these categories. For example, we examine the attributes of zero and non-zero sum rules and we describe the way zero-sum game play defines collaborative and competitive interactions and the way non-zero sum rules help define the nature of cooperative game play. We also explore how these categories of collaborative, cooperative, and competitive are defined by the goals players are given, the way players are allowed to interact through game mechanics, and how much and in which ways players relate to one another - both in degree of antagonism/support and in a degree of mutual interdependence.

Having explored the basic categories of collaboration, cooperation, and competition, we investigate how we can expand this classic typology by exploring several simulation and gaming fields: (a) game theory, (b) popular gaming and (c) educational gaming. To develop our expanded typology and detailed list of the factors which define categories in our typology, first we refer to game theory and political science literature that describes multi-actor situations with relational interdependencies that are important to investigate represent (e.g., Poteete et al., 2010; Ostrom et al., 1994). Likewise, we consider the recent expansion of game types in popular gaming including semi-cooperative (e.g. CO2, Lacerda, 2012), meta-collaborative (e.g. *Dead of Winter: A Crossroads Game*, Gilmore & Vega, 2014), and traitor (e.g. *Battlestar Galactica*, Konieczka, 2008), all of which do not fit neatly within the basic three categories. Finally, designers in educational and serious gaming have been applying popular game design techniques and game theoretic principles to develop games that represent realistic situations involving sustainability and negotiation. Together, these domains suggest a more detailed and nuanced set of realistic situations worth simulating and categorizing in game play.

Within each of these domains of game theory, popular gaming, and educational gaming, we examine how particular game rules and mechanics support interplayer relationships. In this way, we attempt to build up a more detailed and nuanced typology of game player relational interdependencies that shows both what design factors are essential to describing any given typological category and also what new design categories might be possible. In this process we define a number of factors that (a) occur and help define relationships in real life, and (b) we consider key to game design. These factors influence how players relate to one another including: continuity of payout, asymmetry, the perception of inequality, and the need for deception during successful play.

Discussion

We find that the player experience is strongly influenced by numerous factors relating to the relational interdependence among players including degree of asymmetry, the perception of inequality, the continuity of payout, having dynamic or a fixed goal point, the need for deception during successful play, and the presence of zero to non-zero sum goals, in addition to the experience of cooperation, competition, and collaboration. As a result of this theoretical investigation, we are now planning to develop a survey of game experiences with a focus on how players relate to each other in ways that include moral orientation and levels of cooperation for specific games. With this poster we are focused on presenting our typology as a work-in-progress and providing views examples and rationale for the categories we are developing. Our aim is to elicit feedback from poster session attendees on the development and refinement of this typology as well as a questionnaire that we are developing to empirically test our typology.

References

- Aarseth, E., Smedstad, S. M., & Sunnanå, L. (2003). A Multi-Dimensional Typology of Games. *DiGRA '03 - Proceedings of the 2003 DiGRA International Conference: Level Up. Volume: 2*. Utrecht, The Netherlands.
- Djaouti, D., Alvarez, J., & Jessel, J. P. (2011). Classifying serious games: The G/P/S model. *Handbook of research on improving learning and motivation through educational games: Multidisciplinary approaches*, 118-136.
- Elverdam, C., & Aarseth, E. (2007). Game Classification and Game Design Construction Through Critical Analysis. *Games and Culture*, 2(1), 3-22.
- Gilmore J. & Vega I. (2014). *Dead of Winter: A Crossroads Game*. [Tabletop]. Plaid Hat Games.
- Järvinen, A. (2003, November). Making and breaking games: a typology of rules. *Proceedings of the 2003 DiGRA International Conference: Level Up. Volume: 2*. Utrecht, The Netherlands.
- Konieczka, C. (2008). *Battlestar Galactica*. [Tabletop]. Fantasy Flight.
- Lacerda, V. (2012). CO2. [Tabletop]. Goichix.it.
- Leacock, Matt. (2007). *Pandemic*. [Tabletop]. Z-Man Games.
- Ostrom, E., Gardner, R., & Walker, J. (1994). *Rules, games, and common-pool resources*. University of Michigan Press.
- Poteete, A. R., Janssen, M. A., & Ostrom, E. (2010). *Working together: collective action, the commons, and multiple methods in practice*. Princeton University Press.
- Zagal, J. P., Rick, J., and His, I. "Collaborative games: Lessons learned from board games." *Simulation & Gaming* 37, no. 1 (2006): 24-40.