Analyzing the meta dimensions in TRPGs: Meta-action, metacognition, and metagaming

Análise das dimensões meta em TRPGs: meta-ação, metacognição e metagaming

Análisis de las dimensiones meta en los TRPG: metaacción, metacognición y metajuego

Cristo Leon
M.B.A., Ph.D. (candidate) in Business Administration
New Jersey Institute of Technology. University Heights, Newark, 07102 New Jersey, USA
New Jersey. USA
E-mail: leonc@njit.edu

James Lipuma
M.Ed., Ph.D. in Environmental Science
New Jersey Institute of Technology. University Heights, Newark, 07102
New Jersey. USA
E-mail: lipuma@njit.edu

ABSTRACT
Roleplay has critically influenced academic dialogue on education, psychology, and narrative. However, little research has been conducted around "gaming sessions," specifically the "point of contact" amongst participants, due to its ephemeral qualities and the subjective nature of the co-creative process. Acknowledging the complexity of the subject, the authors established a clear set of definitions. They conducted a literature review to examine the existing understanding of critical components related to gameplay in Tabletop Roleplay Games (TRPGs). They are exploring TRPGs through the lens of narrative storytelling to understand better and categorize the 'collaborative' and 'co-designed interactions during the gameplay experience. The paper discusses the three interconnected ideas of meta-action, metacognition, and metagaming concerning the effective co-creation process and its impact on how participants collectively create and explore fantasy worlds in an imaginary cosmos by using a vast system of concepts, rules, and mechanisms that function as the background or canvas for action and interaction amongst them. As Language, Communication, and Education occupy a central role in the gaming experience, miscommunication and assumptions will lead to a break in immersion. Metagaming is commonly labeled as the "worst" that can happen in a gaming session. The problem is that it is also commonly confused with meta-action and metacognition, which are essential to the game. This article aims to provide the tools to all players that will allow them to enjoy a more engaging in-game experience, based on the idea that the more players manage metagaming properly, the better the game experience will be for all participants involved. The main focus is defining essential discourse clearly and clarifying the line between in-game and extra-game narration, description, and action. The authors will start conceptualizing the situation by defining general terms. A systematic review of the literature (SRL) integrated into the three phases, planning, management, and reporting the results, will be presented in the following sections. An analysis of the concepts of' Gaming and extra gaming' followed by brief 'Examples at the point of contact' and conversations around 'Action and Meta-actions' will serve as a reference to discuss the metacognition and metagaming concepts. Finally, the authors will present their conclusions and a glossary of terms.

Keywords: metacognition, metagaming, meta-action, storytelling, tabletop roleplay games (TRPGs), lifelong learning, SDG4 education, educational gaming, game-based learning.

RESUMO

A interpretação de papéis influenciou de forma crítica o diálogo acadêmico sobre educação, psicologia e narrativa. No entanto, poucas pesquisas foram realizadas sobre "sessões de jogos", especificamente o "ponto de contato" entre os participantes, devido às suas qualidades efêmeras e à natureza subjetiva do processo de cocriação. Reconhecendo a complexidade do assunto, os autores estabeleceram um conjunto claro de definições. Eles realizaram uma revisão da literatura para examinar a compreensão existente dos componentes críticos relacionados à jogabilidade em jogos de RPG de mesa (TRPGs). Eles estão explorando os TRPGs por meio das lentes da narrativa para entender melhor e categorizar as interações "colaborativas" e "co-projetadas" durante a experiência de jogo. O artigo discute as três ideias interconectadas de meta-ação, metacognição e metagaming referentes ao processo de cocriação eficaz e seu impacto sobre como os participantes criam e exploram coletivamente mundos de fantasia em um cosmos imaginário usando um vasto sistema de conceitos, regras e mecanismos que funcionam como pano de fundo ou tela para ação e interação entre eles. Como a linguagem, a comunicação e a educação ocupam um papel central na experiência de jogo, a falta de comunicação e as suposições levarão a uma quebra na imersão. O metagaming é comumente rotulado como o "pior" que pode acontecer em uma sessão de jogo. O problema é que ele também é comumente confundido com meta-ação e metacognição, que são essenciais para o jogo. Este artigo tem o objetivo de fornecer a todos os jogadores as ferramentas que lhes permitirão desfrutar de uma experiência de jogo mais envolvente, com base na ideia de que quanto mais os jogadores gerenciarem o metagaming adequadamente, melhor será a experiência de jogo para todos os participantes envolvidos. O foco principal é definir claramente o discurso essencial e esclarecer a linha entre a narração, a descrição e a ação dentro e fora do jogo. Os autores começarão a conceituar a situação definindo termos gerais. Uma revisão sistemática da literatura (SRL) integrada às três fases, planejamento, gerenciamento e relatório dos resultados, será apresentada nas seções a seguir. Uma análise dos conceitos de 'Jogo e extrajogo' seguida de breves 'Exemplos no ponto de contato' e conversas sobre 'Ação e Meta-ações' servirão como referência para discutir os conceitos de metacognição e metagame. Por fim, os autores apresentarão suas conclusões e um glossário de termos.

Palavras-chave: metacognição, metagaming, meta-ação, narração de histórias, jogos de RPG de mesa (TRPGs), aprendizagem ao longo da vida, educação SDG4, jogos educacionais, aprendizagem baseada em jogos.

RESUMEN

Los juegos de rol han influido decisivamente en el diálogo académico sobre educación, psicología y narrativa. Sin embargo, se ha investigado poco sobre las «sesiones de juego», en concreto sobre el «punto de contacto» entre los participantes, debido a sus cualidades efímeras y a la naturaleza subjetiva del proceso cocreativo. Reconociendo la complejidad del tema, los autores establecieron un conjunto claro de definiciones. Realizaron una revisión bibliográfica para examinar los conocimientos existentes sobre los componentes críticos relacionados con la jugabilidad en los juegos de rol de mesa (TRPG). Exploran los TRPG a través de la lente de la narración para comprender mejor y categorizar las interacciones «colaborativas» y «codiseñadas» durante la experiencia de juego. El artículo analiza las tres ideas interconectadas de meta-acción, metacognición y metagaming en relación con el proceso de co-creación efectiva y su impacto en cómo los participantes crean y exploran colectivamente mundos de fantasía en un cosmos imaginario mediante el uso de un vasto sistema de conceptos, reglas y mecanismos que funcionan como telón de fondo o lienzo para la acción y la interacción entre ellos. Dado que el lenguaje, la comunicación y la educación ocupan un papel central en la experiencia de juego, los errores de comunicación y las suposiciones conducirán a una ruptura de la inmersión. El metajuego se suele considerar lo «peor» que puede ocurrir en una sesión de juego. El problema es que también suele confundirse con la metaacción y la metacognición, que son esenciales para el juego. Este artículo pretende proporcionar a todos los jugadores las herramientas que les permitan disfrutar de una experiencia de juego más atractiva, partiendo de la idea de que cuanto mejor gestionen los jugadores el metajuego, mejor será la experiencia de juego para todos los participantes implicados. El objetivo principal es definir claramente el discurso esencial y aclarar la línea que separa la narración, la descripción y la acción dentro y fuera del

juego. Los autores empezarán a conceptualizar la situación definiendo términos generales. En las siguientes secciones se presentará una revisión sistemática de la literatura (SRL) integrada en las tres fases: planificación, gestión y comunicación de los resultados. Un análisis de los conceptos de «Juego y extrajuego» seguido de breves «Ejemplos en el punto de contacto» y conversaciones en torno a «Acción y metaacciones» servirán de referencia para discutir los conceptos de metacognición y metajuego. Por último, los autores presentarán sus conclusiones y un glosario de términos.

Palabras clave: metacognición, metagaming, metaacción, narración, juegos de rol de mesa (TRPG), aprendizaje permanente, educación ODS4, juegos educativos, aprendizaje basado en juegos.

1 INTRODUCTION

It is recognized that there are two prominent active roles in a TRPG gaming session. Narrator/Dungeon Master (DM, Referee, Non-Player Characters), and Protagonist/Player Character (PC), amongst many others . These two roles rely upon several external factors and agreements on the system and mechanics. We will explore the idea of style, use of voice, and co-creation. The authors assume that all individuals involved in the role-playing activity want to enjoy the game and the emerging story they are part of.

2 THEORETICAL FRAMEWORKS

In this section, we explore the theoretical framework underpinning the concept of play and its extended interpretations across various contexts such as storytelling, games, and educational environments. Play is fundamentally described as a voluntary, rule-bound activity that stands apart from ordinary life, offering joy and tension within its unique temporal and spatial boundaries. This notion, eloquently defined by Huizinga (1980), serves as a foundation for examining the broader implications and applications of play in different spheres, including both human and animal behaviors.

Expanding from this core definition, we delve into related constructs such as diegesis, where a narrative is shaped by a narrator's perspective, thus influencing the story's reception and interpretation. This narrative framework is crucial for understanding storytelling within games and other performative contexts.

The concept of the game itself is scrutinized through the lens of systems and rules that define and constrain conflict, leading to measurable outcomes, as discussed by Tekinbas and Zimmerman (2003). Similarly, the notion of meta-action introduces a higher level of strategic decision-making that affects the game state beyond immediate gameplay mechanics.

Metacognition is explored in terms of its role in assessing and overseeing cognitive processes, particularly within educational settings where it facilitates enhanced learning strategies and knowledge comprehension. Furthermore, the metagame concept illustrates how games intersect with real-life, affecting individual perceptions and interactions beyond the game's confines.

Lastly, the roles and roleplay are discussed as crucial elements in cultural and performative practices, particularly in roleplaying games where players actively contribute to a shared narrative, creating and embodying characters within a fictional universe. These elements collectively form a rich tapestry that underscores the multifaceted nature of play and its significance across various domains.

2.1 BASIC DEFINITIONS

Play

"Play is a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy and the consciousness that it is "different" from "ordinary life." Thus defined, the concept seemed capable of embracing everything we call "play" in animals, children and grown-ups: games of strength and skill, inventing games, guessing games, games of chance, exhibitions and performances of all kinds. We ventured to call the category "play" one of the most fundamental in life" (Huizinga, 2016, p. 28).

Diegesis

"Diegesis can be defined as a story told by a narrator, colored by his/her voice" (Nikolaidou, 2018, p. 221).

Game

"A system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome" (Tekinbas & Zimmerman, 2003).

Meta-Action

"Associated with a decision system, S are defined as higher concepts used to model certain generalizations of action rules. Meta-actions, when executed, trigger changes in the values of some flexible features in S.

Meta-actions are actions, outside of the features F, taken by deciders to transition objects from an initial known state with specific preconditions to a different state with known postconditions" (Touati et al., 2015, p. 5).

Metacognition

"The set of capacities through which an operating subsystem is evaluated or represented by another subsystem in a context-sensitive way" (Proust, 2016, p. 4).

Metacognition (in the educational context)

"The term metacognition refers generally to knowledge of and control over one's own cognitive processes. Within the context of educational research, metacognition is associated more specifically with the processes by which students can both understand and adjust their thinking and learning strategies to expand the limits of their existing knowledge" (Frey, 2018, p.1055).

Metagame

"It is how a game interfaces with life. A particular game, played with the exact same rules will mean different things to different people, and those differences are the metagame" (Garfield, 2013).

Role

"1a: a character assigned or assumed 1b: a part played by an actor or singer 2: a function or part performed especially in a particular operation or process" (Merriam-Webster, 2021).

Roleplay

"Roleplay is a type of cultural bricolage (as per Genette 1982). Every text—both as a mode of expression and as a carrier of meaning—is created ad hoc, in a collaborative process of analysis: extracting elements from various already constituted wholes; and synthesis: combining these heterogeneous elements into a new whole where none of them retain their original meaning and (35) function. Examining roleplaying games as cultural systems (as per Fine 1983) implies that we should always place them within webs of cultural relations, in which each system element leads to other systems, other cultures, and other discourses" (35-36)" (As cited on: Nikolaidou, 2018, p. 222).

Roleplaying games

"'Roleplaying games' is a word used by multiple social groups to refer to multiple forms and styles of play activities and objects revolving around the rule-structured creation and enactment of characters in a fictional world. Players usually individually create, enact, and govern the actions of characters, defining and pursuing their own goals, with great choice in what actions they can attempt. The game world usually follows some genre fiction theme and is managed by a human referee or computer. There are often rules for character progression and task and combat resolution" (J. P. Zagal & Deterding, 2018, p. 65).

3 CONCEPTUALIZING THE SITUATION

Discussions regarding roleplaying have dominated research in recent years. Exploration of interactive narratives, online Gaming, and metacognition has critically influenced academic dialogue on storytelling (Gyori & Zaluczkowska, 2022; Heinbach, 2021; Yáñez León & Cabobianco, 2023). However,

more research needs to be conducted on the game session and the interaction between participants. This paper seeks to examine this interactive space where dialogue occurs amongst participants with shifting roles and perspectives as they co-create the story.

Many terms are related to the idea of TRPG, and they have great complexity and various connotations in their many multi-cultural applications. By consulting the literature, we found the after mentioned definitions for the key terms needed to understand the meaning of TRPGs. The authors agree with Huizinga's idea that "The category "play" is one of the most fundamental in life" (2016, p. 28) and focuses on engaging in an activity for enjoyment, typically without rules. Furthermore, Tekna and Zimmerman state that a game is "A system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome" (2003). The participant plays the role and is involved in adopting a persona guided by the duties, source materials, agreed-upon norms, or other gaming and socio-cultural rules of the organizing group. Leading to an understanding that there must be some level of agreement amongst the participants to come together in a given place to engage in a game that follows a set of acknowledged rules, allowing them to inhabit the roles of players to co-create a story with a participant that has assumed the role to manage the gameplay experience. Additionally, the authors acknowledge the existence of certain role-playing games (RPGs) that do not require a designated game master (GM), such as Fiasco (Morningstar, 2019), and others that lean heavily on narrative elements like TIME Stories (Space Cowboys, 2015). These examples illustrate alternative approaches to traditional game structures, emphasizing the versatility and breadth of RPG formats. However, a detailed exploration of these GM-less and narrative-centric games falls outside the scope of this article, which focuses primarily on more conventional role-playing game dynamics. This acknowledgment serves to highlight the diversity within RPGs while maintaining the focus on traditional gameplay mechanics.

From the general aspects of play and games, we then start merging concepts as we envision roleplay as a "cultural system" (Fine, 2002) with a substantial impact on "the literature of the fantastic" (Nikolaidou, 2018, p. 219). Adding the dimension of 'game' to 'roleplay' will add a new definition: "Roleplaying games is a word used by multiple social groups to refer to multiple forms and styles of play activities and objects revolving around the rule-structured creation and enactment of characters in a fictional world" (Zagal & Deterding, 2018, p. 65). It is with these components that the concept of TRPGs is finally formed:

"Tabletop RPGs (TRPGs), often envisioned with groups of people sitting around a table without anything but papers, dice, and a pencil, are where we are focusing our discussion. "Players typically each create and then control a fictional character within a shared fictional game world, maintaining character information (possessions, specific abilities, etc.) on a piece of paper commonly called a character sheet." (J. P. Zagat & Deterring, 2018, p. 35).

It is assumed readers have a basic understanding of this type of TRPG. The distinction's essential

nature is that all participants communicate orally and with prompts to convey ideas, negotiate meanings, and develop the storyline.

"One special player, called the referee, game master, judge, dungeon master, or similar, is the arbiter and manager of the game. The referee enforces the rules of the game, enacts the fictional world by telling the players what their characters perceive and what the non-player characters (NPCs) do. Players verbally describe what they want their characters to do, and the referee tells them the results of those actions typically using a combination of improvisation and the game's rules where dice are often used to determine the outcome of certain actions" (Zagal & Deterding, 2018, p. 35).

3.1 DIEGESIS: THE NARRATIVE CORE

Building for this theoretical framework, we will transition to the narrative actions that occur as all participants co-create this story. "Diegesis can be defined as a story told by a narrator, colored by his/her voice" (Nikolaou, 2018, p. 221). This idea is what we put forth as the essential tool at the point of contact between the players and the DM. Having established a clearer picture of the area of investigation for TRPG, we then conducted the following literature review to understand the narrative gaming space. This interaction by participants is a complex human experience as they assume multiple roles and deal with many factors.

4 LITERATURE REVIEW

The authors followed the definition of a literature review from the SAGE encyclopedia: "The term literature review can be viewed as both what is read and the process that has been undertaken to produce the work in question" (Frey, 2018, p. 983). For the present study, the review was performed in two steps. First, a systematic review of the literature (SRL) was utilized as "the strategy for identifying the most relevant studies" (Ramírez-Montoya & García-Peñalvo, 2018) on the fields of Storytelling, Knowledge Transfer and TRPGs see Table 1. The process for the analysis was based on the "Cochrane Handbook for Systematic Reviews of Interventions" (Higgins et al., 2019) the ideas discussed in "Lessons from applying the Systematic Literature Review Process within the software engineering domain" (Brereton et al., 2007) as well as, "Systematic Reviews in Educational Research: Methodology, Perspectives, and Application" (Newman & Gough, 2020). The SRL was integrated into three phases: planning, management, and reporting the results.

4.1 PLANNING PHASE

The planning phase of a systematic literature review (SLR) utilizing the General, Particular, and Specific (GPE) model focuses on structuring the review to capture the dynamic interplay between storytelling and roleplaying in TRPGs (Tabletop Role-Playing Games). This SLR aims to

comprehensively map out the landscape of narrative strategies and their cognitive impacts across three levels of analysis: General, Particular, and Specific. At the General level, we explore broad themes such as the transfer of storytelling knowledge and the overarching role of TRPGs in narrative development. Moving to the Particular, the focus narrows to interactive narratives, the role of metacognition in understanding and manipulating story elements, and the concept of diegesis as it relates to narrative control. The Specific level delves deeper into the nuances of narrative voices (points of view), the processes of co-creation in storytelling, and the techniques that make narratives effective. This structured approach not only aids in identifying the key components of storytelling within TRPGs but also evaluates the roles and responsibilities of various participants such as authors, Dungeon Masters (DMs), and players in crafting a collaborative narrative experience. This SLR will serve as a critical tool for understanding how different levels of narrative engagement influence both the story being told and the participants' experiences (See Table 1).

Table 1. General, Particular, Specific (GPS) matrix for the SRL.

	Roleplaying Storytelling		
	General	Particular	Specific
General	Storytelling	Knowledge Transfer	TRPGs
Particular	Interactive Narrative	Metacognition	Diegesis
Specific	Narrative Voices (POV)	Co-creation	Effective Narrative
User	Author	DM	Player
	Control and responsibility for the collaborative experience		

The objective of this review focused on answering the following research questions:

- RQ1. - How many documents exist in the Eric, Scopus, JSOTR, EBSCO, ProQuest, Wiley, and Gartner databases?
- RQ2. - What contexts (academic, business, social, cultural) have been the object of study?
- RQ3. - What are the challenges for DMs in enhancing the metacognition of the players?
- RQ4. - What are the challenges to aligning the POV between DMs and players?
- RQ5. - How does the metagame dimension affect the in-game dimensions, the interactive narrative at the point of contact?

The following protocol for the review and the guidelines for selecting and evaluating the relevant studies were developed in the following manner.

The first step was to identify the databases at our disposal. We identify the following databases to perform this study:
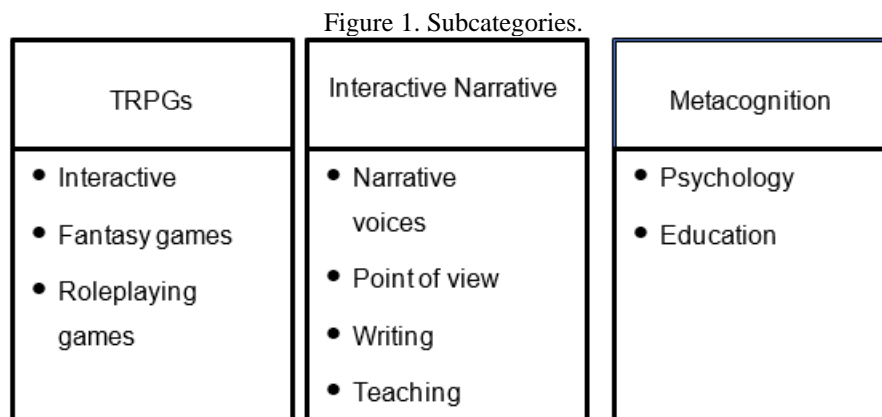
- ProQuest eBook Central .
- EBSCO .
  - o Academic Search Premier

o   ERIC - Education Social Science – VALE

o   LISTA (Library, Information Science & Technology Abstracts)

o   Business Source Premier

- Education Resources Information Center

- JSTOR .

- Research Library Business Applications .

- Scopus .

- Wiley Online Library .

4.2 LITERATURE REVIEW MANAGEMENT

To start the second step, "management of the information," we focus our research on the specific level of planning and use the following categories: Dungeons and Dragons, Narrative, and Metacognition. As the literature review started, we identified the following sub-categories in Figure 1:

Figure 1. Subcategories.

TRPGs	Interactive Narrative	Metacognition
• Interactive • Fantasy games • Roleplaying games	• Narrative voices • Point of view • Writing • Teaching	• Psychology • Education

Inclusion and exclusion criteria: We started with all documents from January 2010 to March 2021, with English as the inclusion criteria for the search parameters. The second step was to exclude results by a period by reducing them from January 2018 to March 2021. All documents were filtered by relevance, and we kept a record of the top 10 results for correlation. The next step was to filter by document type with the categories of books and peer review articles. Finally, these steps were repeated using Spanish as the secondary language for the inclusion criteria (see Appendix 1).

4.3 REPORTING PHASE

The SLR presented answers to the first two questions:

i.   RQ1.- From a total of 374,110 documents, we focus on the 62,605 from the period 2018-2021 and make our final selection, including 18 out of 64 books, 73 out of 33,048 peer review articles including seven articles from the International Journal of Roleplaying, and 44 papers from the Interactive

Storytelling conference.

     ii.   RQ2.- From the list of 359 keywords, 302 were unique, and the topmost common words found were:

- Roleplaying (7)
- Video games (6)
- Narrative (5)
- Metacognition (4)
- Virtual reality (4)
- Interactive narrative design (4)
- Fantasy games (4)
- Interactive narratives (4)
- Electronic books (3)
- Interactive digital narrative (3)
- Cinematic Virtual Reality (3)
- Dungeons and Dragons (Game) (3)

These findings support the assumption that the field is complex and involves multiple disciplines. Additionally, we found that the recent issue of the "International Journal of Roleplaying: Social Dynamics within Roleplaying Communities" (Bowman et al., 2020) presents six articles explicitly focusing on gender and social dynamics.

Further enriching this discourse, the Journal of Roleplaying Studies and STEAM (JRPSSTEAM), a Latin American publication, delves into diverse intersections of RPGs with historical, narratological, educational, and interpersonal dynamics. Notable publications from this journal include works by Cabobianco and Van Houtte (2022), analyzing the role of RPGs in the historical and narratological analysis of the Aztec empire, and by Díaz de la Torre (Díaz de la Torre, 2022), which examines how RPGs contribute to the construction of subjectivities through collective narration and interpretation horizons. Additionally, Espinosa Chueca (2022) investigates the potential influence of RPGs on interpersonal relationship development among children. These articles collectively underscore the vast potential of RPGs as tools for educational development, cultural preservation, and the enhancement of social and emotional skills, presenting a rich tapestry of how roleplaying intersects with various academic disciplines and social contexts. This broader analysis aids in understanding the multifaceted applications of RPGs and their significant impact on both individual and collective levels.

The analysis identifies the following contexts: Cultural, Social, and Educational. The main areas of discussion found are listed in Figure 2:

Figure 2. The main areas of discussion found in the literature.

Role-playing	Narrative	Education and Psychology
• Video games • Fantasy games • Virtual reality • Dungeons and Dragons	• Interactive Digital Narratives (IDN) • Interactive Narratives • Interactive Narrative Design (IND) • Interactive Digital	• Teaching • Teaching methods • Metacognition • Communication

The following chapter will discuss the answers to the additional research questions.

This review informed the discussion of narration through description and dialogue, leading to the following focus areas: the different dimensions of meta-activities within the game and in the extra-gaming arena.

5 GAMING AND EXTRA GAMING

It is essential to understand that the conversations a DM has with a player or players around rolling dice and using a spell, a skill, or a feat are part of the TRPG in-game experience. We call this moment the 'point of contact.' In the same way, giving a general description of the landscape or what the character sees is not a dialog, but they are an integral part of the narrative and, therefore, a part of the game. This communication includes different perspectives, voices, and reasons.

In TRPGs, the participants are responsible for making the decisions and actions necessary to complete the co-creation process. This will vary greatly depending upon the level at which the participants assume the roles that can authentically embody the style and persona of PC, NPCs, and DM. In TRPGs, the players assume the role of a player character with a specific persona "Roleplaying games obligate participants to occupy a liminal role located in the boundaries of persona, player, and person" (Waskul & Lust, 2004). Therefore, "Actions" will have a "Meta-action" dimension as the player may know how to run in real life but not necessarily know how to use a medieval crossbow. In contrast, the character may know how to run and use the crossbow. For this paper, meta-action is the communication about an action that deals with the cognitive discussion and descriptions, not explicitly describing the action itself. We will discuss these ideas in detail later in the paper. Meta-actions are about those things related to the conditions and factors impacting a decision to act or the conditions of the pre- and post-state of things connected to those actions (Touati et al., 2015, p. 5).

The second meta-dimension we identify is metacognition: "The term metacognition refers generally to knowledge of and control over one's own cognitive processes" (Frey, 2018, p. 1055). As with

meta-actions, metacognition has an additional level of conceptualization as there may be some concepts that the player knows, such as dragons, that the character does not. Therefore, the capacity of the metacognition of the player to operate the subsystem of the metacognition of the character will always be "context-sensitive" (Proust, 2016, p. 4). More importantly, the interaction between the players and the DM related to teaching and learning concepts related to gameplay relies heavily on metacognition.

The final meta dimension that we will explore is metagaming. We adopt the definition of metagame by Richard Garfield and follow his four main broad categories: "what you bring to a game, what you take away from a game, what happens between games, [and] what happens during a game" (Garfield, 2013, p. 3) It is critical to expand on the idea that the context of Garfield's definition was broad and focused on the trading card game 'Magic the Gathering' as opposed to Boluk & Lemieux whose focus is on playing and competing: "The metagame expands, as a comprehensive label for the contextual, site-specific, and historical attributes of human (and nonhuman) play. The metagame identifies not the history of the game but the history of play" (2017, p. 17). In other situations, outside observers who are not participants can be part of a metagame, or the participants, when away from the game session, can engage in metagaming discussions:

"A player is metagaming when they use the knowledge that is not available to their character in order to change the way they play their character (usually to give them an advantage within the game), such as knowledge of the mathematical nature of character statistics, or the statistics of a creature that the player is familiar with but the character has never encountered. In general, it refers to any gaps between player knowledge and character knowledge which the player acts upon" (Fandom, 2008).

Building on the work of the literature review, this section provides examples and explanations in context to clarify the distinction between the various meta-dimensions of gameplay. It also presents a clear distinction between the in-game and metagame spaces.

6 EXAMPLES AT THE POINT OF CONTACT

During a typical gaming session, the person in the role of the "Dungeon Master (DM)" is in control of the NPC's actions, the description of the environment, and the overall narration of the story. At the same time, the DM is a referee in the game, mediating between what the player wants and can do. We will follow the example of a standard gaming session to illustrate our ideas better.

DM says, "The enemy managed to escape the castle and will run into the forest unless stopped. Your character has no ranged weapons, and there is a 20-foot chasm between you and the Scylla you are chasing. What do you want to do?".

The person in the role of the "Player Character (PC)" controls the character's actions, interactions with the environment, and the overall narration of the protagonist's story. At the same time, the PC is also co-creating the story with the DM and has to adjust the narrative between what the system allows the

character to do and what the dice rolling determines that happened.

PC says, "I want to draw my sword, jump the 20 feet, and give chase to the enemy". This simple scenario will illustrate the complexity of the co-creation process as it encounters the interconnected ideas of meta-action, metacognition, and metagaming.

In our example, the PC wants to chase after the enemy. The PC will have to jump a 20-foot chasm to accomplish this. The action is jumping; the rules for jumping are the skills rules. The meta-action discusses applying the rules to this action in a given situation.

7 ACTION AND META-ACTION

A possible scenario is when a PC asks an in-game question to the DM to increase clarification. The player asks, "How wide is the gap?" This opens an in-game dialog with the player/referee to improve the clarification of the situation. Depending on the system, source material, plot, hard or soft rules, DM style, etc., this interaction could take many forms.

The DM could say: "20 feet: that's about three times your height, or far less than one parsec." This comparison aids players in better understanding the scale and space within the game environment, facilitating a more immersive experience. If more than one player is involved, the in-game action may develop without the DM's involvement.

Player 1 asks, "Does anyone have a flying spell I can use?".

Player 2 says, "No, but the Barbarian can throw you."

Player 1 says, "Will that work?".

Player 3 says, "Yes, I don't see why it would not."

All of this is in-game action dialog and description; however, if instead of asking the same questions to the other Player, the player asks the same questions to the DM, then this becomes a meta-action.

Player 1 asks, "What bonus will I receive from a friend tossing me over the chasm?"

This is an in-game meta-action question, as other players or the DM could answer. However, if the player asks, "What is the difficulty of the jump check?" the DM can only answer this.

This is still a meta-action question about mechanics, where the difference is that the discretion of the DMs impacts how it is answered. These questions are still inside the game, system, and mechanics; therefore, the DM and the player discuss the rules necessary to resolve the conflict.

If the player had said: "I don't understand how do I use "Jump"?" This moves from meta-action to metacognition, and the other players or the DM must assume the teacher's role in answering this question. These situations are in-game discussions that make a point of contact an interactive narrative based on a co-creation process.

For the DM, the narrative voices that explain these interactions move from the narrator to the

referee. For the player, they move from the character (PC) to the person (Player). As with any medium that involves multiple points of view (POV), the language needed to communicate the ideas becomes more complex.

Using the co-creating writing perspective, dialog, and action move the plot forward. At the same time, description and explanation are the meta-action that helps people (DM and PCs) understand what is happening. This dynamic feeds on cultural learning as each person will add their metacognition. It is essential to mention that previous research on perceptual learning (Gibson, 2014) and Cultural Psychology (Kantor, 2009) is also consistent with the cultural learning hypothesis, given that social rules and behaviors will make these interactions possible.

Metacognition will then play a central role in super-personal decision-making. "When people make perceptual decisions together, 'two heads are better than one' when each person communicates accurate metacognitive representations about their judgment" (Heyes et al., 2020, p. 351).

8 METACOGNITION IN TABLETOP ROLE-PLAYING GAMES (TRPGs)

In TRPGs, metacognition refers to how players understand and adapt their cognitive strategies, enhancing their knowledge and effective engagement with the game system. This form of self-reflection is crucial for players to evaluate and optimize their learning and decision-making processes in response to the game's dynamic challenges.

Metacognition in TRPGs often manifests through various types of inquiries that players make during gameplay. For instance, procedural metacognitive questions such as, "Do I feel that I can make that jump?" help players assess their character's capabilities and the likelihood of success based on the game's mechanics rather than relying solely on the Dungeon Master's (DM) input. This encourages a deeper understanding of the game's rules and mechanics.

Analytical questions, such as "How do I use jump?" or "How does gravity work on this planet?" will prompt discussions that clarify the mechanics and enhance collective understanding and strategic planning among players and the DM. These discussions are pivotal for metacognitive growth as they encourage players to think critically about the tools and rules at their disposal.

Conceptual questions like "What is a Scylla?" expand the narrative context and enrich the players' understanding of the game's lore. Responses to these questions should provide detailed descriptions that integrate seamlessly into the gameplay, enhancing the immersive experience without disrupting the game's flow. For example, if the DM says.- "A Scylla is a type of aberration with humanoid features, a tail, and dog heads sprouting from her body."

As with the meta-action examples before, all these conversations are still "in-game." the main difference is that metacognition questions will open the door to learning moments about the system, its mechanics, monsters, etc.

The complication exists when more than one PC is present, as additional PCs will increase the interactions, opinions, assumptions, and interpretations. For example, all players will bring their metacognition to the table: "When coordinating complex actions as a team." The players will need metacognitive representations to determine and decide what each team member will contribute to the situation.

When the conversation moves from individualistic to pluralistic, the DM must stop the game to answer all the questions. As the DM attempts to clarify all the information for the team, different channels and conversations will flow simultaneously. When meta-action and metacognition don't find a simple resolution, the DM and the players will resort to metagaming.

9 METAGAMING

What is metagaming on TRPGs? When the players are bending the rules to achieve a beneficial outcome, when the DM has a particular assumption about a metacognitive concept, rule, or mechanic that is different to the players, or when any participant brings out extra-game information to the play. In our example, after the DM says, "What do you want to do?" If the player says, "I want to run 20 feet and jump the 20-foot chasm," then the DM will request the player to roll a dice versus a given difficulty to confirm the outcome. Here, action, meta-action, and metacognition flow "in-game."

If, instead, the player says, "I want to disbelieve the "Matrix" and jump 300 feet to charge and hit the Scyla," Then we are talking about metagaming. Metagaming not only disrupts the flow of the game but also interferes with the cultural learning process. The DM and the players will have to pause the "in-game" session to explain that this is a medieval setting and that without magic (or special abilities), no one can jump 300 feet. Metagaming creates an unpleasant gaming experience and is not an action or meta-action. It only adds more complexity to the metacognition by bringing more concepts to the table. The communication issue will grow if we add the dimension of "styles," in which some DMs want to enact one style over the other; the same is true for PCs.

10 CONCLUSIONS

Understanding how meta-dimensions influence the point of contact will assist participant communication. This will bring clarity and effectiveness to the language used, the various points of view, and the levels of narration needed to achieve a fully immersive in-game session.

DMs already have responsibilities; they need to understand the system and prepare for the adventure, encounters, maps, and NPCs. Additionally, they are referees on the actions and meta-actions. Finally, they need to assume the role of the teacher when transferring metacognition concepts to the players. More experienced players can assist the DM in transferring knowledge to less experienced players. All participants can enjoy concept-metacognition conversations and meta-action discussions of

rules. TRPGs are not a 'simulator,' as they all need the 'abstract exceptions' provided by the DM to the 'rule-based system.' If the players don't agree with these exceptions or bring an additional conversation extra-game, then the metagame appears in-game. It is then the player's responsibility to avoid metagaming and call on the DM and other players when the conversation deviates to the grim area of metagaming, as this will take away the joy and happiness of an immersive narration.

ACKNOWLEDGMENTS

REFERENCES

Boluk, S., & LeMieux, P. (2017). Metagaming: Playing, Competing, Spectating, Cheating, Trading, Making, and Breaking Videogames (1st ed.). University of Minnesota Press.

Bowman, S. L., Torner, E., White, W. J., & Hoffman, S. (2020). International Journal of Role-Playing: Social Dynamics within Role-playing Communities. International Journal of Role-Playing, 10, 103.

Brereton, P., Kitchenham, B. A., Budgen, D., Turner, M., & Khalil, M. (2007). Lessons from applying the systematic literature review process within the software engineering domain. Journal of Systems and Software, 80(4), 571–583. https://doi.org/10.1016/j.jss.2006.07.009

Cabobianco, M., & Van Houtte, M. (2022). Imaginar la historia: El juego de rol leyenda como punto de contacto entre el análisis historiográfico y el narratológico en la conquista del imperio azteca. Journal of Roleplaying Studies and STEAM, 1(1), 50–69.

Díaz de la Torre, J.-M. (2022). Narración colectiva, horizontes de interpretación y subjetividad: Los juegos de rol como mecanismos de construcción de subjetividades. Journal of Roleplaying Studies and STEAM, 1(1), 19–35.

Espinosa Chueca, M. J. (2022). ¿Cuál es la potencial influencia de los juegos de rol en la construcción de relaciones interpersonales en niños y niñas? Journal of Roleplaying Studies and STEAM, 1(1), 36–49.

Fine, G. A. (2002). Shared Fantasy: Role Playing Games as Social Worlds (Paperback, first edition 1983). The University of Chicago Press.

Frey, B. B. (2018). The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation, First Edition (1ra Edición). SAGE Publications, Inc. https://doi.org/10.4135/9781506326139

Gibson, J. J. (2014). The Ecological Approach to Visual Perception: Classic Edition (1st edition). Psychology Press.

Gyori, B., & Zaluczkowska, A. (2022). How we role: The collaborative role-playing poetics of the Secret Story Network. Journal of Screenwriting, 13, 207–230. https://doi.org/10.1386/josc_00094_1

Heinbach, D. (2021). Storytelling (Online Discussions/Discussion Quality). DOCA - Database of Variables for Content Analysis. https://doi.org/10.34778/5w

Heyes, C., Bang, D., Shea, N., Frith, C. D., & Fleming, S. M. (2020). Knowing Ourselves Together: The Cultural Origins of Metacognition. Trends in Cognitive Sciences, 24(5), 349–362. https://doi.org/10.1016/j.tics.2020.02.007

Higgins, J., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M., & Welch, V. (Eds.). (2019). Cochrane Handbook for Systematic Reviews of Interventions, Second Edition (2da Edición). John Wiley & Sons. www.training.cochrane.org/handbook

Huizinga, J. (1980). Homo Ludens: A Study of the Play-Element in Culture (Reprint from the German edition 1944). Routledge and Kegan Paul.

Kantor, J. R. (2009). Cultural Psychology. University Of Akron Press.

Morningstar, J. (2019). Fiasco Role Playing Game. Bully Pulpit Games. https://www.amazon.com/Bully-Pulpit-Games-BPG-005/dp/1934859397

Newman, M., & Gough, D. (2020). Systematic Reviews in Educational Research: Methodology, perspectives, and application. In O. Zawacki-Richter, M. Kerres, S. Bedenlier, M. Bond, & K. Buntins (Eds.), Systematic Reviews in Educational Research: Methodology, Perspectives, and Application (pp. 3–22). Springer Fachmedien. https://doi.org/10.1007/978-3-658-27602-7_1

Nikolaidou, D. (2018). The Evolution of Fantastical Storyworlds: A Study of Tabletop Role-Playing Settings. Ex-Centric Narratives: Journal of Anglophone Literature, Culture and Media, 1(2), 218–229. https://doi.org/10.26262/exna.v1i2.6741

Proust, J. (2016). The Philosophy of Metacognition: Mental Agency and Self-Awareness (Reprint edition). Oxford University Press.

Ramírez-Montoya, M.-S., & García-Peñalvo, F. (2018). Co-creation and open innovation: Systematic literature review. Comunicar, 54, 9–18. https://doi.org/10.3916/C54-2018-01

Salen Tekinbas, K., & Zimmerman, E. (2003). Rules of Play: Game Design Fundamentals. The MIT Press.

Space Cowboys. (2015). TIME Stories Board Game. https://www.spacecowboys.fr/time-stories-english

Touati, H., Ras, Z., & Studnicki, J. (2015). Meta-actions as a Tool for Action Rules Evaluation. In Studies in Computational Intelligence (Vol. 584, pp. 177–197). https://doi.org/10.1007/978-3-662-45620-0_9

Waskul, D., & Lust, M. (2004). Role-Playing and Playing Roles: The Person, Player, and Persona in Fantasy Role-Playing. Symbolic Interaction, 27(3), 333–356. https://doi.org/10.1525/si.2004.27.3.333

Yáñez León, C. E., & Cabobianco, M. O. (2023). Elementos Constitutivos de los Juegos de Rol: Una Revisión Sistemática de la Literatura [BJB]. Brazilian Journal of Business, 5(4), 1870–1883. /Research/Cultural and Social Studies. https://doi.org/10.34140/bjbv5n4-003

Zagal, J. P., & Deterding, S. (2018). Definitions of "Role-Playing Games." In Role-Playing Game Studies. A Transmedia Approach (1st ed., pp. 19–51). Routledge. https://doi.org/10.4324/9781315637532-22

Appendixes

Appendix 1 Literature review results

Categories and keywords	1st year	1500 to 2021 All Documents (All time)			2010 to 2021 All Documents (2010-2021)		
		All lenguages	English	Spanish	All lenguages	English	Spanish
Roleplaying Games	1500	235,502	229,854	577	126,428	122,368	438
Role+playing	1500	66,454	61,631	438	35,266	32,938	341
metacognition	1920	59,944	32,075	665	17,062	23,597	0
Dungeons and dragons	1500	10,536	10,463	16	4,501	4,472	14
dungeons+dragons	1980	461	96	0	267	32	0
narrative+pov	1994	12	12	0	5	3	0
Totals		372,909	334,131	1,696	183,529	183,410	793

Categories and keywords	1st year	2018 to 2021										
		All Documents (2018-2021)			Books			Peer Review Articles (PRA)			Distribution	
		All	English	Spanish	All	English	Spanish	All	English	Spanish	% of books	% of PRA
Roleplaying Games	1500	37,162	36,034	149	39	32	0	22,157	22,072	86	82.05%	99.62%
Role+playing	1500	9,590	8,988	114	14	11	0	4,665	4,590	52	78.57%	98.39%
metacognition	1920	14,438	8,923	175	20	15	1	6,063	5,994	97	75.00%	98.86%
Dungeons and dragons	1500	1,125	1,117	3	2	1	0	303	302	0	50.00%	99.67%
dungeons+dragons	1980	67	6	0	0	0	0	2	1	0	0.00%	50.00%
narrative+pov	1994	3	3	0	0	0	0	1	1	0	0.00%	100.00%
Totals		62,385	55,071	441	75	59	1	33,191	32,960	235		

Source: Personal elaboration.