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

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

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## Abstract

Role-play 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 subjective nature of the co-creative process. Acknowledging the complexity of the subject, the authors establish a clear set of definitions and conducted a literature review to examine the existing understanding of key components related to gameplay in Tabletop Role-play Games (TRPGs). Exploring TRPGs through the lens of narrative storytelling to better understand 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 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 to clearly define essential discourse and clarify the line between in-game and extra-game narration, description, and action. The authors will start conceptualizing the situation by defining general terms. Presenting a systematic review of the literature (SRL) integrated by the three phases: Planning, Management and Report the results, will inform the following sections. An analysis of the concepts ‘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.

## Line of research

Pedagogy and Didactics. Psychology and Communication.

## Keywords

Metacognition, Metagaming, Meta-action, Storytelling, Tabletop Role-play Games (TRPGs).

## 1.0 Introduction

It is recognized that in a TRPG gaming session there are two main active roles. Narrator/Dungeon Master (DM, Referee, and Non-Player Characters), and Protagonist/Player Character (PC). 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 of which they are part.

### 1.1 Conceptualizing the situation

Discussions regarding role-playing have dominated research in recent years. Exploration of interactive narratives, online gaming, and metacognition has critically influenced academic dialogue on storytelling. However, little research has been conducted on the game session and the interaction between those who are participating. This paper seeks to examine this interactive space where dialogue occurs amongst participants with shifting roles and perspectives as they co-create the story.

There are a large number of terms related to the idea of TRPG with great complexity and various connotations in its many multi-cultural applications. By consulting the literature, we found the following definitions for the key terms needed to understand the definition 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 upon engaging in an activity for enjoyment typically without rules. Furthermore, Tekna and Zimmerman present the idea 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 role is the part played by the participant and involves adopting a persona guided by the duties, source materials, agreed-upon norms, or other gaming and socio-cultural rules of the organizing group. These roles may typically include player characters (PCs), non-player characters (NPCs), and the game manager role.

Finally, this leads 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 player to co-create a story with a participant that has assumed the role to manage the gameplay experience.

From the general aspects of play and games, we then start merging concepts as we envision role-play as a “cultural system” (Fine, 2002) with a strong impact on “the literature of the fantastic” (Nikolaidou, 2018, p. 219). Adding the dimension of ‘game’ to ‘role-play’ will add a new definition “ ‘Role-playing 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). 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. Zagal & Deterding, 2018, p. 35).

It is assumed readers have a basic understanding of this type of TRPG. The essential nature of the distinction being drawn is that all participants are communicating 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).

Now having established these terms, our next concept deals with 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 Game manager. 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.

## 2 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 on “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 Report the results.

### 2.1 Planning phase

	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 on the collaborative experience			

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

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

- RQ1. - How many documents are there 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 metacognition on the players?
- RQ4. - What are the challenges to align 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 on how to select and evaluate 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 (ProQuest, 2020).
- EBSCO (EBSCO, 2020).
  - Academic Search Premier
  - ERIC - Education Social Science – VALE
  - LISTA (Library, Information Science & Technology Abstracts)
  - Business Source Premier
- Education Resources Information Center (ERIC, 2020).
- JSTOR (JSTOR, 2020).
- Research Library Business Applications (Gartner, 2020).
- Scopus (Scopus, 2020).
- Wiley Online Library (Wiley Online, 2020).

## 2.2 Literature review management

To start the second step, “management of the information” we focus our research on the specific level of the planning and use the following categories: Dungeons and Dragons, Narrative, Metacognition. As the literature review started, we identify the following subcategories figure 1:

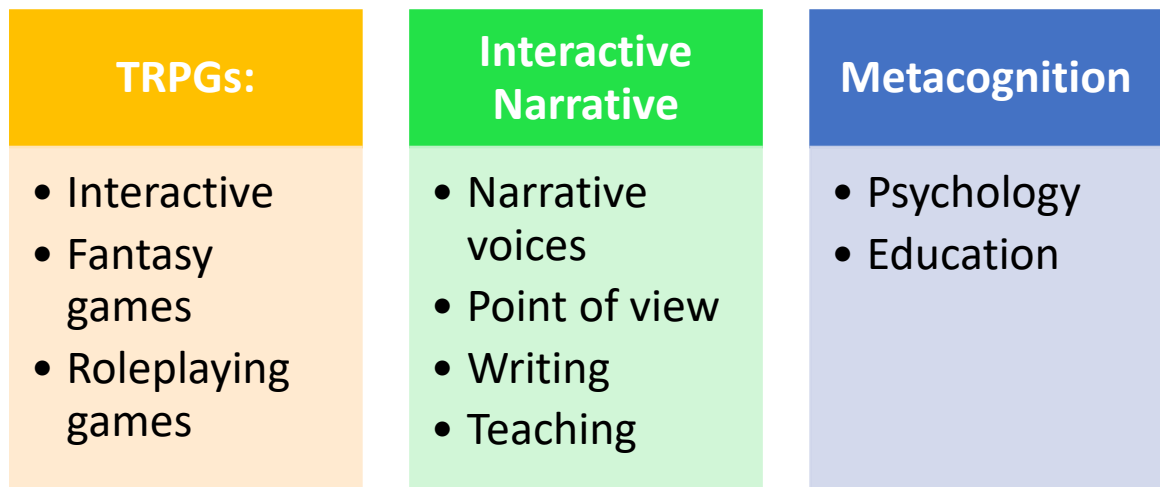


Figure 1.- Subcategories.

Inclusion and exclusion criteria: For the search parameters, we started with all documents from January 2010 to March 2021, with English as the inclusion criteria. The second step was to exclude results by a period by reducing them to 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 type of document with the categories: books and peer review articles. Finally, these steps were repeated using Spanish as the secondary language for the inclusion criteria (see appendix 1).

## 2.3 Reporting phase

The SLR presented answers to the first two questions:

- 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 7 articles from the International Journal of Role-Playing, and 44 papers from the Interactive Storytelling conference.
- RQ2.- From the list of 359 keywords, 302 were unique, and the topmost common words found were:
  1. Role-playing (7)
  2. Video games (6)
  3. Narrative (5)
  4. Metacognition (4)

5. Virtual reality (4)
6. Interactive narrative design (4)
7. Fantasy games (4)
8. Interactive narratives (4)
9. Electronic books (3)
10. Interactive digital narrative (3)
11. Cinematic Virtual Reality (3)
12. Dungeons and Dragons (Game) (3)

This supports the assumption that the field is complex and multidisciplinary. Additionally, we found that the recent issue of the “International Journal of Role-Playing: Social Dynamics within Role-playing Communities” (Bowman et al., 2020) presents 6 articles with a specific focus on gender and social dynamics.

From the analysis, we identify the following contexts: Cultural, Social, and Educational. The main areas of discussion found are listed in figure 2:

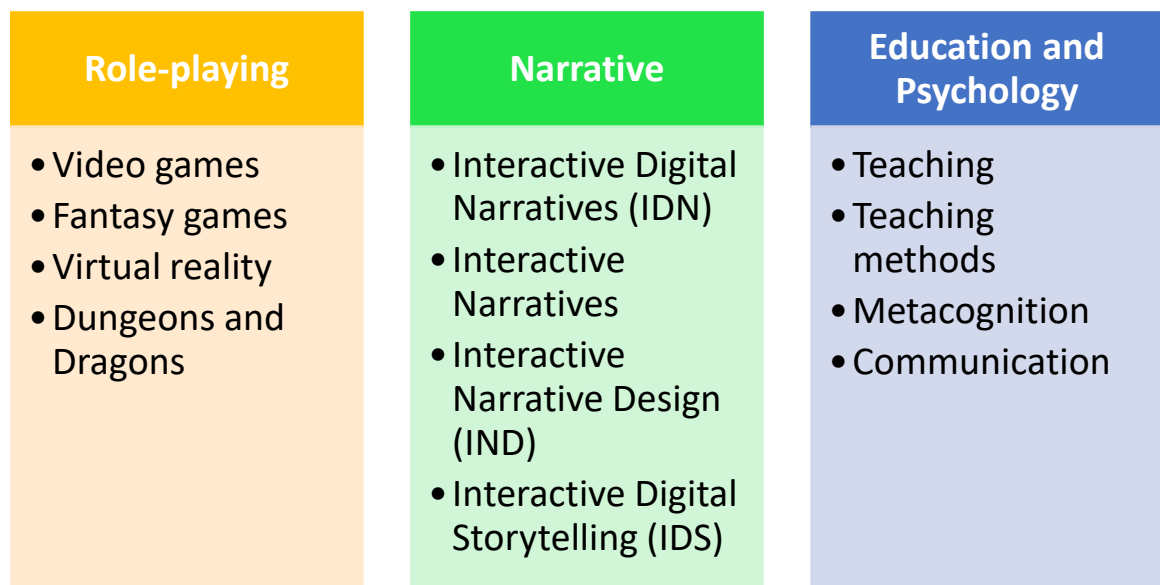


Figure 2.- The main areas of discussion found in the literature.

The answers to the additional research questions will be discussed in the following chapter.

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



## Gaming and Extra gaming

It is important 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 TRPGs in-game experience. We call this moment the 'point of contact'. In the same way that 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" "Role-playing 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 he may 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, the idea of meta action is the communication about an action that deals with the cognitive discussion and descriptions not specifically describing the action itself. This will be discussed in detail later. Meta-actions are about those things related to the conditions and factors impacting a decision to act or related to the conditions of the pre and post-state of things connected to those actions (Touati et al., 2015, p. 5).

The second meta dimension that 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 the meta-actions, the metacognition has an additional level of conceptualization as there may be some concepts that the player knows for example 'Dragons' that the character does not. Therefore the capacities 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 game manager 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 main four 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 important 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 Bolus & Lemieux (2017, p. 17) whose focus is on playing and competing: “The metagame expands, as a truly broad label for the contextual, site-specific, and historical attributes of human (and nonhuman) play. What the metagame identifies is not the history of the game, but the history of play”. 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).

These terms are best seen in context. Building on the work of the literature review, the following section provides examples and explanations to clarify the distinction between the various meta dimensions of gameplay. In addition, a clear distinction for the in-game and metagame space is presented.

### **Examples at the point of contact**

During a normal 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 to do and what the player can do. We will follow the example of a normal gaming session to better illustrate our ideas.

DM says, “The enemy managed to escape the castle and will run into the forest unless stopped. Your character does not have any ranged weapons, there is a 20 feet chasm between you and the illithid that you are chasing. What do you want to do?”.

The person in the role of the “Player Character (PC)” is in control of the character's actions, its 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 rolling of the dice 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, to accomplish this the PC will have to jump a 20 feet chasm. The action is jumping, the rules for jumping are the skills rules. The meta-action then is the discussion about applying the rules to this action in the given situation.

### **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 player/referee to increase the clarification of the situation. Depending on the system, the source material, the plot, how hard or soft the rules are, the style of the DM, etc., this interaction could take many different forms.

The DM could say: “20 feet. Is 3 times your height. Less than one parsec”. If more than one PC is involved, then the in-game action may develop without the DM involvement.

PC1 says, “Does anyone have a flying spell that I can use?”.

PC2 says, “No, but the Barbarian can throw you”.

PC1 says, “Will that work?”.

PC3 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 PC the player asks the same questions to the DM, then this became a meta-action.

Player 1 asks, “What is the bonus that I will receive from a friend tossing me over the chasm?”

This is an in-game meta-action question as it could be answered by other players or the DM. Whereas if the player asks “What is the difficulty of the jump check?”, this can only be answered by the DM.

This is still a meta-action question about mechanics where the difference is the discretion of the DMs impacts how it is answered. All of these questions are still inside the game, its system, and mechanics; therefore, the DM and the player are engaged in a discussion of 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, the other players or the DM must assume the teacher role to answer this question. All of these situations are in-game discussions that make the point of contact an interactive narrative based on a co-creation process.

For the DM the narrative voices used to 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 are what moves the plot forward, while, 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 important to mention that previous research on perceptual learning (Gibson, 2014) and cultural psychology (Kantor, 2009) is also consistent with the cultural learning hypothesis, given the fact that social rules and behaviors will make these interactions possible.

Metacognition will then play a central role in super personal decision-making “When people are making 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).

## **Metacognition**

In the context of TRPGs, the authors believe that metacognition can be associated with the processes by which the PCs can both understand and adjust the thinking and

learning strategies to expand the limit of their existing knowledge about a specific game system. We suggest that learning about the game system in TRPGs is highly influenced by cultural learning. Continuing with our example the player can ask metacognition questions on the categories: procedural, analytic, and conceptual (amongst many other metacognitive dimensions).

If the player says, “Do I feel that I can make that jump?”. This is a procedural question that the DM cannot truly answer as the DM cannot determine the result of the player rolling the dice. The DM could say, “Yes, you feel that you can” or “Yes, you have made that same distance in the past”, nevertheless the player will still have to roll the dice to confirm the action.

Analytical metacognition questions like “How do I use jump?” or “How does gravity work on this planet?” from the player. Will prompt a metacognition discussion as well as a learning experience amongst players and DMs.

Finally, if the player asks concept metacognition questions like: “What is an illithid?” will prompt a descriptive answer clarifying the concept to the player for example if the DM says.- “An illithid is a type of aberration that has humanoid features with four tentacles snake from their octopus-like heads”.

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 PCs are present as additional PCs will increase the interactions, opinions assumptions, and interpretations. All players will bring their metacognition to the table for example: “When coordinating complex actions as a team”. The players will need metacognitive representations to determine and decide what each team member will be contributing to the situation.

When the conversation moves from individualistic to pluralistic, the DM will be forced to 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 be flowing in simultaneity. When the meta-action and the metacognition don't find a simple resolution the DM and or the players will resource to metagaming.

## **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 feet chasm” then the DM will proceed to request the player to roll a dice vs a given difficulty to confirm the outcome. Here action, meta-action, and metacognition are flowing “in-game”.

If instead, the player says, “I want to disbelieve the “Matrix” and jump 300 feet to charge and hit the illithid” 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 the use of magic (or special abilities) no one can jump 300 feet. Metagaming not only creates an unpleasant gaming experience it is also not an action or meta-action and 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 there are some DMs that will like to enact one style over the other and the same is true for PCs.

## **Conclusions**

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

DMs already have a world of responsibilities over their shoulders, they need to understand the system, prepare the adventure, encounters, maps, and NPCs. Additionally, they are referees on the actions and meta-actions. Finally, they need to assume the role of 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.

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## **Glossary**

### **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 actions rules. Meta-actions, when executed, trigger changes in 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 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 (education)**

“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).

### **Role-play**

“Role-play 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 role-playing 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).

### **Role-playing games**

“ ‘Role-playing 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).

### **Tabletop Role-playing games (TRPGs)**

“Tabletop RPGs (TRPGs), usually played by a group sitting around a table, are arguably the common ancestor of all forms. 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.<sup>2</sup> Player characters’ abilities are generally quantified (e.g. strength is 15, driving skill is 12). 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” (J. P. Zagal & Deterding, 2018, p. 35).

## Appendix 1 Literature review results

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

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

Source: Personal elaboration.

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