Review Article

Journal of Innovative Research in Teacher Education, *6*(1), 36-54,
ISSN: 2757-6116
http://www.jirte.org
DOI: 10.29329/jirte.2025.1288.3
Received: 30/12/2024
Revised: 14/03/2025
Accepted: 17/03/2025

More from an instrumentalist perspective: examining digital games from an instrumental rationality perspective

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Abstract

Although digital games are used for entertainment and educational purposes, the characters and designs often influence players' behaviors and thought processes. The concept of the pedagogical agent in digital games allows for an analysis of game characters' roles. However, in some games, these characters may create adverse effects by promoting harmful behaviors rather than fostering positive learning experiences. The instrumental rationality approach seeks to explain this situation and suggests that moral values or ethical concerns can be disregarded when pursuing success. This research aims to examine the characteristics of the characters in popular ten games (Fortnite, Brawl Stars, Call of Duty (CoD), Clash of Clans, League of Legends (LoL), Minecraft, Overwatch, PUBG (Player Unknown's Battlegrounds), Roblox, Valorant) from the perspective of instrumental rationality and to analyze how these characters function as pedagogical agents. The study evaluates whether the values presented to players by these in-game characters lack ethical and moral considerations. The research was conducted as a qualitative document analysis study. In this context, the characteristics of the characters displayed on the official games' websites were analyzed using the content analysis method. The study assessed how these characters were structured as pedagogical agents and their potential adverse effects on players. By employing content analysis, the focus was placed on how the characters' features were reflected to players and whether these features pursued an educational purpose. The study's findings reveal that the characters in these games function as pedagogical agents, but these agents negatively affect players. The instrumental rationality perspective exposes how these characters are designed solely to achieve goals while disregarding factors such as ethics and values. This study demonstrates that the characters in digital games serve entertainment purposes and play a more profound educational role, which can have negative impacts.

Keywords: Instrumental rationality, digital games, game characters.

Cite: Arslankara, V. B. (2025). More from an instrumentalist perspective: Examining digital games from an instrumental rationality perspective. *Journal of Innovative Research in Teacher Education, 6*(1), 36-54 https://doi.org/10.29329/jirte.2025.1288.3

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INTRODUCTION

Digital games have emerged as a prominent medium that profoundly impacts individual and societal levels (Liu, Li & Santhanam, 2013). These games are not merely considered tools of entertainment but also environments that influence individuals' thinking patterns, decision-making processes, and social dynamics (Gee, 2003; Quwaider, Alabed & Duwairi, 2019; Saravanan, 2024). A study conducted in Turkey revealed that elements of violence, gender stereotypes, and racism embedded in digital games—particularly those widely accepted as popular across all demographics—may influence children's cognitive structures, thereby normalizing negative behaviors and potentially triggering similar actions in real life (Yigit Acikgoz & Yalman, 2018). Furthermore, it has been reported that the uncontrolled use of digital games can lead to adverse effects in children and adolescents, such as anxiety, depression, and aggression, while also exacerbating social problems and negatively impacting academic performance (Ardic & Yalcin Irmak, 2018).

Popular games such as Fortnite, Brawl Stars, Call of Duty (CoD), Clash of Clans, League of Legends (LoL), Minecraft, Overwatch, PUBG, Roblox, and Valorant provide players with opportunities to experience distinct characters, strategies, and narratives, thereby exposing them to specific forms of logic and rationality (Apperley, 2006; Cudo et al., 2024). One of the primary reasons for the widespread preference for these games is their immense popularity and diverse player base. According to a 2024 report, Fortnite reached 350 million active monthly players, while PUBG exceeded 1 billion downloads on mobile platforms as of 2023 (Souza & Ferreira de Freitas, 2017; Statista, 2024). Similarly, Minecraft was reported to have sold 238 million copies across all platforms (Business of Apps, 2023). League of Legends attracts over 27 million daily players globally and is a central hub for e-sports tournaments (Taylor, 2012; Poels, van den Hoogen, Ijsselsteijn & Kort, 2012). Meanwhile, Roblox had 67 million active players in 2023, catering to a large global audience, while mobile strategy games like Clash of Clans and Brawl Stars are widely played by both children and adults (Nieborg, 2017).

These games bring together players from various age groups and social backgrounds, fostering a global community (Liu, 2016; Salen & Zimmerman, 2004). Research indicates that players in these games often enhance their strategic decision-making, problem-solving, and teamwork skills (Gee & Gee, 2010; Lin & Huang, 2025; Yang & Chen, 2020). For example, studies have highlighted the potential of digital games, particularly strategy-focused ones, to enhance players' cognitive abilities (Carissoli & Villani, 2024). Cop and Kablan (2018), who conducted a comprehensive content analysis of educational studies involving digital games in Turkey, strongly emphasize that digital games significantly enhance students' academic achievement, attitudes, and retention levels.

Instrumental rationality offers a critical understanding of digital games (Bouvier, Lavoué & Sehaba, 2014). This perspective defines the tendency of individuals to seek and utilize the most efficient means to achieve specific goals (Habermas, 1984). Analyzing the characters, narratives, and player-driven dynamics within digital games through the lens of instrumental rationality provides valuable insights into how these environments influence players (Bogost, 2007; Charles & Black, 2004). For instance, the widespread adoption of these games among youth has contributed to social identity construction and linguistic intelligence development (Liazid & Abdelli, 2025).

This study aims to investigate the characteristics and narratives of characters within digital games, focusing on how these features affect players' behaviors and decision-making processes. For instance, prior research has demonstrated that digital games and similar technologies directly impact social skills, functioning as positive or negative educational tools (Elson, Breuer, & Quandt, 2014; Failla et al., 2024; Freitas, 2024).

Conceptual Framework

Instrumental rationality refers to individuals' ability to select the most appropriate means to achieve a specific goal and to use these means effectively (Weber, 1978). This concept, which holds a significant place in Max Weber's sociological theory, emphasizes that individuals' actions are guided by goal-oriented and pragmatic reasoning (Colman, 2003). According to Weber, instrumental rationality represents a form of reasoning to achieve the most effective outcome rather than being driven by moral, value-based, or emotional motivations. Instrumental rationality also provides a fundamental theoretical framework for understanding how individuals and institutions engage in rational planning processes in modern societies.

Digital games are laboratories for examining how instrumental rationality operates individually and collectively. Team-based games, in particular, reveal the impact of instrumental rationality on group dynamics. For instance, games like League of Legends allow players to develop individual strategies while performing actions aligned with team objectives.

A study examining the use of digital games across different educational levels indicates that, while digital games can be integrated into the learning process at all levels, they are particularly suitable and effective for younger age groups (Ulker & Bulbul, 2018). Digital games offer a multi-layered experience that requires players to make strategic decisions, optimize resources, and achieve goals. They can be described as virtual microcosms that amplify the visibility of instrumental rationality among individuals (Sicart, 2013a). While games like Fortnite, Call of Duty, and PUBG demand quick and effective decision-making, titles such as Clash of Clans and League of Legends emphasize long-term strategic planning and coordination skills. Open-ended creative platforms like Minecraft showcase a different dimension of instrumental rationality by allowing players to define their goals. In these games, players use characters as tools to achieve specific objectives.

Digital games also provide insights into how instrumental rationality manifests in social learning and group dynamics, making them practical laboratories for such exploration. In games like Fortnite, players must make rapid decisions and coordinate with teammates, learning to develop strategies that support team objectives rather than solely focusing on individual success (Lin & Huang, 2025). Players exhibit instrumental rationality by managing roles and task allocation within the group. For instance, in team-based games like League of Legends, players are guided by individual strategies and behaviors aligned with team goals (Zhang, 2010). This provides a valuable perspective on how instrumental rationality functions individually and collectively.

In digital games, the characteristics and narratives of characters are critical elements that motivate players and guide their decision-making processes within the framework of instrumental rationality (Sicart, 2013b). The influence of these characters extends beyond in-game objectives, shaping players' real-life behaviors and strategic thinking skills. A recent study conducted in Turkey examining the skills high school students acquire through digital games found that such games contribute significantly to developing key 21st-century skills, including critical thinking, problem-solving, and creative thinking (Kocak, Korkmaz, & Saltan, 2024). This study explores how game characters affect individuals' strategic reasoning and goal-oriented actions. Specifically, it has investigated the physical, behavioral, and cognitive traits of game characters, their messages, and the motivational impact of these messages on players.

Digital games can be considered virtual laboratories for testing individuals' abilities to select and utilize tools to achieve their goals. From the perspective of instrumental rationality, digital games directly influence players' decision-making dynamics and strategic thinking processes in goal achievement. These games impact not only players' in-game success but also their real-world problem-solving and strategy development skills. However, the rise of instrumental rationality can lead individuals to overlook

moral, social, or emotional considerations, resulting in various issues (Brock, 2017). For example, the increased competitiveness in certain games can exacerbate toxic behaviors, reduce empathy among players, and elevate stress levels (Freitas, 2024).

Theoretical Significance

When the literature is examined, it is observed that studies analyzing digital games predominantly focus on their general educational potential, cognitive impacts, or psychological effects on users. However, studies specifically examining popular digital games through the lens of instrumental rationality are notably limited. Although instrumental rationality has been previously utilized to examine social dynamics and organizational behaviors, its application in understanding digital game characters, narratives, and pedagogical roles is scarce. Thus, this study contributes uniquely by offering an original theoretical perspective, making it one of the pioneering analyses in this context. This research addresses an important theoretical gap by critically evaluating game designs and character behaviors from an instrumental rationality standpoint, providing new insights into how game mechanics influence player behaviors and ethical orientations.

Practical Significance

Beyond theoretical contributions, the study carries substantial practical implications. Findings obtained from this research may increase awareness among game designers, developers, and educators about the ethical and moral implications embedded within popular digital games. Mainly, this study can encourage designers to create more ethically responsible and educationally beneficial games by highlighting how game characters, through their narratives and interactions, influence players' ethical values and decision-making processes. Additionally, educators and parents can use the insights from this research to understand the potential adverse effects of popular games, enabling them to guide children and adolescents towards healthier gaming habits and improved critical thinking skills. Thus, the study contributes to academic discourse and provides actionable knowledge to enhance digital game practices for the betterment of players and broader societal well-being.

In this context, the central research question of this study is as follows:

RQ. To what extent do the character designs and narratives of globally most-played digital games disregard ethical and moral values from an instrumental rationality perspective?

METHOD

This section provides a detailed account of the research design, data collection methods, data analysis procedures, and the validity and reliability measures of the study.

Research Design

The research design employed in this study is a qualitative approach, utilizing a document analysis design to explore and examine digital games through the lens of instrumental rationality. This approach aligns with the need to delve deeply into digital game narratives' characteristics, contextual features, behaviors, and mechanics, offering a holistic understanding of their instrumental aspects (Bowen, 2009).

Data Collection

The study examines ten digital games purposefully selected to represent diverse genres, narratives, and character designs. Purposeful sampling was chosen as it facilitates the selection of information-rich cases, particularly when studying phenomena with specific contextual nuances (Patton, 2015).

The digital games included in this study were selected through purposeful sampling based on global popularity, active player counts, genre diversity, and consistent presence in international gaming statistics and rankings (e.g., Statista reports, global popularity indices, and gaming community forums).

Specifically, games like Fortnite, League of Legends, PUBG, and Roblox were selected due to their massive global player bases and significant cultural impact, evidenced by metrics such as monthly active players, total downloads, and frequency of mentions in gaming-related media. Additionally, these games represent various genres, mechanics, and audience demographics, comprehensively analyzing instrumental rationality across different gaming contexts. Each game's behaviors, design elements, and tasks associated with key characters were documented systematically. Additionally, in-game dialogues and discourses were transcribed to capture linguistic and thematic elements, a crucial step in understanding the underlying instrumental rationality.

The manifestations of instrumental rationality in the games analyzed in the study are described in the table below.

Table 1. Selected Digital Games and Elements of Instrumental Rationality in the Study

Games	Explanation
Fortnite	Players develop survival strategies by utilizing their resource-gathering and building skills. Using weapons and equipment serves as an instrumental means to achieve the survival objective. The game encourages players to act efficiently and remain goal-oriented (Epic Games, 2025).
Brawl Stars	Players strategically enhance their game performance by selecting characters (brawlers) with unique abilities and utilizing upgrades and star powers. The game necessitates teamwork, quick decision-making, and the strategic use of resources (Supercell, 2025).
Call of Duty (CoD)	In the game, characters serve an instrumental role for players, each possessing unique skills and weaknesses. Players utilize these character traits to achieve their objectives (Activision, 2025).
Clash of Clans	Players strive to use resources efficiently while building, defending, and upgrading their villages. Training troops, upgrading heroes, and attacking other players are instrumental in achieving in-game objectives. Clan wars highlight the social dimension of instrumental rationality by fostering collaboration and leadership skills (Supercell, 2025).
League of Legends (LoL)	Each character's unique traits and abilities instrumentally influence players' gameplay style and objectives. Players utilize these abilities to work as a team and achieve their goals (Riot Games, 2025).
Minecraft	Players navigate the game world without guidance and define their objectives. Actions such as resource gathering, building, exploring, and surviving serve as instrumental means for players to achieve their self-determined goals (Mojang Studios, 2025).
Overwatch	Players develop team strategies by utilizing the abilities of different characters. Character selection and ability usage are instrumental in achieving in-game objectives (Blizzard Entertainment, 2025).
PUBG (Player Unknown's Battlegrounds)	Players are dropped onto a map and must fight to survive. Strategy, equipment gathering, map knowledge, and teamwork are instrumental tools used to achieve the goal of survival. Special characters and their abilities also play an instrumental role in the game (PUBG Corporation, 2025).
Roblox	Players achieve their social and economic goals by utilizing tools such as creating and customizing their avatars, designing game worlds, creating games, and interacting with other players. In-game purchases and character customizations serve an instrumental function in enhancing players' social status (Roblox Corporation, 2025).
Valorant	Players develop tactical strategies by utilizing the abilities of different characters. Character selection, ability usage, and teamwork are instrumental in achieving in-game objectives (Riot Games, 2025).

Data Analysis

The collected data underwent a rigorous content analysis, which incorporated four analytical methods:

- Descriptive analysis: Summarizing the characteristics of the games' content, focusing on recurring themes and patterns (Miles, Huberman, & Saldaña, 2014).

- Frequency analysis: Identifying the prevalence of specific behaviors, designs, and discourses to establish trends and dominant features (Neuendorf, 2017).
- Thematic analysis: Exploring deeper themes related to instrumental rationality within the data to reveal underlying patterns and meanings (Braun & Clarke, 2006).
- Discourse analysis: Examining the games' verbal and textual components to uncover their narratives' rhetorical and ideological underpinnings (Gee, 2014).

Justification of the Methodology

The document analysis method was chosen for its capacity to handle rich, contextual, and nuanced data found within digital games. By analyzing in-game elements as "texts," the research aligns with previous studies that underscore the effectiveness of this method in understanding cultural products and their societal implications (Prior, 2003).

This content analysis strategy ensures a multi-layered understanding of digital games, bridging the micro-level analysis of individual game elements with broader themes and discourses. Including both frequency and thematic analyses enhances the reliability and depth of the findings, while discourse analysis contextualizes the results within broader ideological and cultural frameworks (Hsieh & Shannon, 2005).

Reliability and Validity

To enhance the reliability of the analysis, the study incorporated triangulation by comparing findings across multiple games and involving peer debriefing during the coding process. Validity was ensured by maintaining transparency in the coding and categorization processes, alongside conducting regular checks to align interpretations with the original data. Additionally, the iterative nature of document analysis ensured that emergent findings were grounded in the data itself (Yin, 2011). An independent researcher participated as a second coder to ensure reliability and validity. Both coders independently analyzed the data, and inter-coder agreement was calculated. The agreement rate was determined using Miles and Huberman's (1994) formula, resulting in an inter-coder reliability of over 90%, thus confirming the consistency of the coding process.

FINDINGS

The data obtained, and the findings derived from the analyses conducted by the researcher are presented under the heading of the research question.

RQ. To what extent do the character designs and narratives of globally most-played digital games disregard ethical and moral values from an instrumental rationality perspective?

Based on the analysis of the collected data, the findings begin with a descriptive analysis of the ten digital games included in the study. The researcher thoroughly examined the games' overarching objectives and mechanics. Concepts and themes were identified and subsequently grouped into several categories.

Table 2. Descriptive Analysis of the General Objectives and Mechanics of Digital Games

Category	Theme	Concepts
Offensive & Physical	**Action/Aggression**	Conflict, war, attack, aggressive, fast, strike, destroy, struggle
	Power / Endurance	Strong, durable, resilience, armor, protection
	Sharpshooting / Precision	Marksman, precise, sharp, range, accuracy, target, shot.
Strategy & Technology	**Strategy / Tactics**	Strategy, tactics, planning, coordination, collaboration, intelligence, thinking, decision-making
	Technology / Advancement	Technology, development, upgrade, device, mechanics, energy, modification

Social & Personal	**Self-Confidence / Individuality**	Self-confidence, individual, leader, star, self, self-assurance, independent
	Social Interaction / Pressure	Social, interaction, friendship, team, group, pressure, exclusion, competition
Environment, Resources & Consumption	**Nature / Environment**	Nature, environment, plant, animal, element, area, trap
	Economy / Resources	Resource, economy, money, gold, loot, purchasing, spending, consumption
	Addiction / Consumption	Addiction, consumption, spending, microtransaction, cosmetics, expenditure

When Table 2 is examined, the findings of the descriptive analysis regarding the general objectives and mechanics of digital games are presented. It is evident that digital games strongly adopt themes of action and aggression. Concepts such as conflict, war, attack, and speed highlight the intense combat-oriented structure of these games. Additionally, the design of strong and resilient characters provides players with a sense of superiority. This design approach aims to enhance players' adrenaline and sense of achievement. However, such content also raises criticisms that games may promote violence.

Including strategy- and technology-based game elements can directly impact players' cognitive skills, such as problem-solving, decision-making, and planning. Concepts like intelligence, tactics, and collaboration aim to strengthen players' teamwork and strategic thinking abilities. Moreover, technological advancement and innovative designs enable games to provide an ever-evolving and modern experience. In this context, games are not merely entertainment tools but platforms capable of influencing players' mental development.

The simultaneous emphasis on social interaction and individuality allows games to appeal to a broad player base. The theme of social interaction facilitates players' connections through team play and competition. In contrast, the theme of individuality boosts players' motivation for personal achievement through concepts like leadership and independence. The balanced presentation of these two aspects ensures satisfaction on both social and individual levels. However, elements of social pressure and competition risk creating adverse psychological effects, especially on younger players.

Including nature and environmental themes demonstrates digital games' potential to foster sustainability and environmental awareness. Resource management and economic themes allow players to engage with mechanics resembling real-world economic systems. However, the prominence of addiction-related themes raises ethical debates concerning the economic models of games. Mainly, content focused on consumption and addiction poses risks to players' financial and psychological well-being.

This analysis of the mechanics of digital games reveals that they offer a multifaceted experience. Themes such as action, strategy, social interaction, and environment aim to fulfill players' physical and mental satisfaction. However, the prominence of concepts like addiction, consumption, and violence in game designs necessitates a deeper inquiry into their ethical and societal impacts. In this regard, game designers must adopt a more responsible approach.

Within the scope of the research question, the ten digital games included in the study were further subjected to descriptive and frequency analysis in the context of instrumental rationality. The findings are presented in Table 3.

Table 3. Descriptive and Frequency Analysis of Digital Games in the Context of Instrumental Rationality

Category	Theme	Concepts	f
	Objectives and Goals	Goal, purpose, winning, survival, mission, achievement, victory, completion	17

Gameplay & Resource Management	**Resource Usage and Management**	Resource, management, gathering, spending, gold, elixir, loot, material, building	13
	Game Mechanics	Mechanics, gameplay, control, movement, skill, ability, system, interface, attack, defense	13
	Decision-Making Processes	Decision, choice, strategy, tactics, planning, analysis, risk, thinking	9
	Social Interaction and Competition	Social, interaction, team, competition, friends, clan, collaboration, pressure, community	13
	Character and Narrative Design	Character, story, appearance, costume, ability, role, class, hero, personality	9
Technology & Economic Rationality	**Technology and Instrumental Rationality**	Technology, tool, upgrade, development, optimization, efficiency, gadget, star power	8
	Economic and Commercial Perspective	Economy, trade, money, purchasing, spending, robux, microtransaction, market, investment	8
Educational & Psychological Aspects	**Educational and Cognitive Dimension**	Education, cognitive, learning, thinking, problem-solving, mental, strategic	5
	Player Psychology	Psychology, motivation, addiction, stress, self-confidence, excitement, fear, impatience, anger	3

Table 3 presents the descriptive and frequency analysis findings conducted on the ten digital games in the context of instrumental rationality. These findings explain the games' operational dynamics and players' interactions within three distinct categories. The supported inferences, enriched with direct game examples, further illustrate these findings.

The Gameplay & Resource Management category focuses on fundamental gameplay elements such as goal setting, resource management, game mechanics, and decision-making processes. Digital games provide players with clear objectives and success criteria. For example, *"In Fortnite, the primary objective is to be the last player or team standing in the Battle Royale mode."* These types of goals motivate players and encourage continuity within the game world.

Efficient resource utilization supports the economic dimension of games. *"In Valorant, players earn credits at the beginning of each round to purchase equipment and make expenditures aligned with their strategies."* This feature contributes to developing players' tactical thinking and planning skills.

Mechanics that test players' skills and reflexes are often prominent. For example, *"Brawl Stars is built around fast-paced battles and teamwork."* Such mechanics enhance the dynamic nature of games and increase player engagement.

Games also offer structures that foster social connections and competition. *"In Roblox, players can play games, chat, and be part of a community with their friends."* This shows that games are not just individual experiences but also social platforms. Additionally, competitive elements motivate players to improve themselves. *"In PUBG, players collaborate to survive."*

Technological advancements and economic structures are critical components that strengthen the theme of instrumental rationality in games. *"In Fortnite, players quickly gather resources and optimize their weapons to increase efficiency."* This highlights the rationalization of in-game decisions. Economic elements allow players to accelerate their progress and invite consumer culture critiques. For instance, *"In Clash of Clans, in-game purchases may lead to a lack of financial awareness."*

While games contribute to strategic thinking and cognitive development, they also naturally affect player psychology. As exemplified by "In PUBG, players develop strategic thinking and quick decision-making skills," educational dimensions positively impact players' mental processes. Psychological effects,

however, are more complex. *"In Valorant, the tendency for quick reflex responses may lead to a habit of acting without thinking."* These aspects can have both positive and negative effects on players.

Table 3 details the experiences digital games provide players in the context of instrumental rationality. These experiences demonstrate the complex structure of games that support individual and social dimensions—however, elements such as consumption and addiction point to the need for ethical considerations regarding game content.

As the third part of the research question, the ten digital games were subjected to thematic analysis in the context of instrumental rationality. Themes, codes, and concepts were identified and grouped into four categories. The findings are presented in Table 4.

Table 4. Thematic Analysis of Digital Games in the Context of Instrumental Rationality

Category	Theme	Code	Concepts
Productivity	**Productivity and Optimization**	Players must utilize in-game resources, tools, and actions most effectively.	Achieving maximum results with minimal effort Rational use of in-game resources Quick and effective decision-making Optimization of tools for performance enhancement
Goal Orientation	**Goal Orientation**	The motivation and strategies players employ to achieve the objectives they set within the game.	Actions directed toward a specific purpose Strategic planning to achieve objectives Pursuit of purpose within the game Motivation and determination
	Instrumental Usage	The tendency of players to perceive all in-game objects, characters, and abilities as tools for achieving their goals.	Objects serving specific goals Strategic selection and use of tools Everything in the game is a means to an end Selecting tools appropriate to the goal
Creativity	**Creativity and Strategy**	The ability of players to find unique and practical solutions to challenges encountered within the game.	Creative problem-solving Developing original strategies Using in-game tools in various ways Flexibility and adaptation
Social Dynamics	**Social Interaction and Collaboration**	Players attempt to achieve in-game objectives by interacting and collaborating with other players.	Interaction with other players Collaboration for shared objectives Instrumental use of social dynamics Belonging to a community
	Consumption and Status	The encouragement of consumer culture through in-game purchases and customizations, as well as players' efforts to gain social status.	Spending virtual currency Customization and status Consumer-oriented game dynamics In-game economy

Table 4 presents the thematic analysis findings of digital games in the context of instrumental rationality. The analysis examines the core dynamics of the games and their effects on player behavior under four main categories. Each category focuses on a specific theme within the games, revealing various dimensions of instrumental rationality.

Digital games are designed with dynamics that require players to use their resources and abilities most efficiently. The Productivity and optimization theme highlights the need for players to use in-game tools and strategies rationally. For instance, *"achieving maximum results with minimal effort"* emphasizes speed and adequate decision-making in game design. The focus on *"optimizing tools for performance*

enhancement" reveals how games trigger players' motivation for continuous improvement, encouraging their pursuit of better outcomes within the game world.

The goal orientation theme encompasses players' desire to achieve specific objectives during gameplay and the strategies they develop to do so. This theme helps players maintain high motivation while fostering strategic thinking skills. The concept of *"strategic planning to achieve goals"* illustrates that games provide entertainment and activate critical skills such as problem-solving and goal-setting. This theme emphasizes ambition and determination, making players' in-game progression a satisfying experience.

Instrumental usage refers to players strategically utilizing in-game objects, characters, and abilities to achieve specific goals. This theme emphasizes the principle that *"objects must serve the goal"* and underscores the strategic selection and use of tools. For example, *"strategic selection of tools and resources"* demonstrates how game designs guide players toward rational decision-making. This dynamic requires players to activate individual skills and their ability to use in-game tools efficiently.

Creativity and strategy represent players' ability to find unique and practical solutions to challenges encountered in the game. This theme develops flexibility and adaptation skills among players. The concepts of *"creative problem-solving"* and *"developing original strategies"* highlight a learning process where players explore different approaches to achieve success. Encouraging players to use in-game tools in various ways promotes freedom of creativity within gameplay.

Games aim to build connections among players and foster a sense of community through social interaction and collaboration dynamics. *"Collaboration for shared objectives"* demonstrates how games provide a social learning environment that encourages teamwork. Communication among players to achieve goals strengthens the social aspect of gameplay. The consumption and status theme, on the other hand, supports players' self-expression while emphasizing consumer-oriented game dynamics. *"Customization and status"* illustrate how in-game economies shape player behavior and reinforce social hierarchies within virtual spaces.

The thematic analysis findings in Table 4 demonstrate how digital games support instrumental rationality from different perspectives. Themes such as productivity, goal orientation, instrumental usage, and social dynamics differentiate players' experiences in both individual and social dimensions. However, the consumer-driven dynamics of games highlight the necessity of questioning their ethical implications and economic models. Finally, within the scope of the research question, discourse analysis findings derived from the words and statements of in-game characters are presented below under three categories.

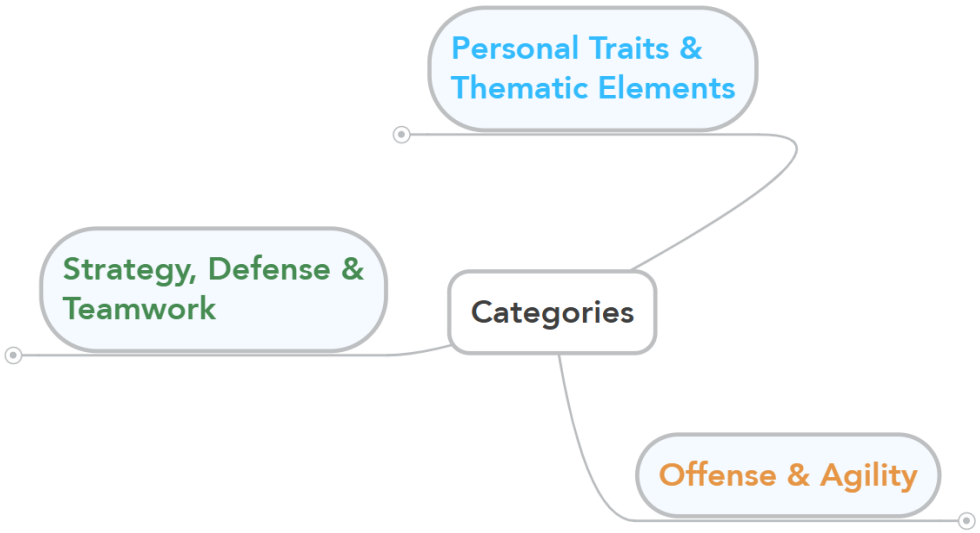

Figure 1. Discourse Analysis

The themes, codes, concepts, and sample discourses obtained for the identified categories are presented in tables. Accordingly, the theme, codes, concepts, and sample discourses for the first category, Offense and Agility, are provided in Table 5.

Table 5. Themes, Codes, Concepts, and Sample Discourses for the Offense and Agility Category

Theme	Code	Concepts	Sample Discourse
Attack and Power Oriented Gameplay	**Fast Action, Aggression**	Fast-paced gameplay, aggressive strategy, defeating the enemy, competition, initiating attack	Victor: "Let us finish this quickly!" Shelly: "Let us go get 'em!" Dynamike: "Kaboom!" Rico: "Bullet storm!"
	Close Combat	Strong character, close-range combat, resilience	Bull: "Do not mess with the bull!" Frank: "Hammer time!" Fang: "This is gonna hurt!" Pump Shotguns: "Close the gap, make it count!"
Speed, Mobility, and Maneuverability	**Rapid Movement and Attack**	Quick movements, rapid attacks on enemies, dynamic playstyle	Tick: "Let us go!" Darryl: "Rollin' rumble!" Carl: "Let us go!" Max: "Max energy!"
	Aesthetics and Agility	Character's aesthetic appeal, fast and striking movements	Mortis: "Dashingly handsome!"
	Fluid and Flexible Gameplay Style	Fluid and flexible gameplay, strategic actions	Eve: "Let us float like a butterfly."

When Table 5 is examined, this category focuses on aggression, speed, and agility themes. The statements of game characters support a fast-paced and action-driven gameplay structure. Codes such as "fast action and aggression" and "close combat" highlight the central role of speed and power in games. This often enhances the competitive nature of games and motivates players to defeat their opponents. For instance, Victor's statement, *"Let us finish this quickly!"* emphasizes the advantage of speed, while Shelly's *"Let us go get 'em!"* frequently underscores the importance of initiating an attack.

The codes "rapid movement" and "aesthetic agility" illustrate that characters are designed to deliver functional and visually impressive performances. Mortis' statement *"Dashingly handsome!"* strongly emphasizes an aesthetic dimension, while Max's *"Max energy!"* conveys the image of an energetic

character. This category reinforces games' action-packed and dynamic structure, encouraging players to think and decide quickly. However, the intensity of the aggression theme raises questions about the ethical dimensions of gameplay.

The themes, codes, concepts, and sample discourses for the second category of discourse analysis, Strategy, Defense, and teamwork, are presented in Table 6.

Table 6. Themes, Codes, Concepts, and Sample Discourses for the Strategy, Defense & Teamwork Category

Theme	Code	Concepts	Sample Discourse
Defense, Support, and Team Play	**Team Strategy, Collaboration, Security**	Utilizing Tools, Team-Focused Gameplay, Ensuring Security, Strategic Positioning	Sara: "Stay safe, the car's ready!" Barley: "This one is on the house!" Poco: "Feel the power of music! Pam: "Mommy needs to find a host!" Squeak: "Go, team!"
	Leadership, Heroism	Leadership Qualities, Promoting Teamwork, Projecting a Strong Character Image	Colonel Ruffs: "Do not mess with the paw!"
	Defense, Preparedness	Self-Defense, Preparedness Against Threats, Survival	Shields and Healing Equipment: "Protect yourself, be prepared!"
Strategy, Tactics and Sniping	**Sharpshooting, Patience, and Focus**	Hitting the Target in One Shot, Patience, Careful Strategy, Waiting for the Right Moment	Anna: "One shot, one kill." Belle: "Bingo!" Sniper Rifles: "Take your time, one shot matters."
	Strategic Thinking	Building Structures, Planning, Strategic Moves, Controlling the Game	Jessie: "Time to get constructive." Nani: "Calculating awesomeness!" Byron: "Time to seal the deal."
	Area Control and Multiple Targets	Establishing Area Control, Attacking Multiple Targets, Clearing Enemies	Hand Grenades: "Clear the room!"

When Table 6 is examined, this category explores the themes of strategy development, defense, and teamwork. The statements of game characters emphasize the importance of collaboration and tactical thinking. The code Team Strategy, Collaboration, Security emphasizes enhancing players' coordination skills. The discourses demonstrate that security and teamwork are prioritized. For instance, Sara's statement, *"Stay safe, the car's ready!"* underscores the significance of defense and team collaboration. This category provides a perspective on managing various qualities such as strategic thinking, planning, and teamwork. Ultimately, an approach prioritizes defense and collaboration ensures that games offer a more inclusive and social experience. The themes, codes, concepts, and sample discourses for another category of discourse analysis, Self-Confidence, and Creativity, are presented in Table 7.

Table 7. Themes, Codes, Concepts, and Sample Discourses for the Personal Traits and Thematic Elements Category

Theme	Code	Concepts	Sample Discourse
Self-confidence and Creativity	**Creativity, Originality**	Showcasing Creativity, Building One's Own World, Unique Designs	Avatar: "Your creativity, your world!"
	Self-Exaltation	Mocking the Opponent, Confidence, Displaying Superiority with Humor, Perseverance, Proving Oneself	Piper: "Oh, you are toast!" Buzz: "Life is a beach!" Carlo: "You cannot take me down that easily!"
	Individuality	Self-Confidence, Emphasizing Individuality, Standing Out	Lola: "I am the star of the show!" Janet: "Janet takes the stage!"

			Andy: "This is my stage!"
Themes and Stylized Elements	**Strength, Nature**	Being Strong, Utilizing Nature	Nita: "Bear attack!" Rosa: "Botany for the win!" Bea: "Be beautiful!" Sprout: "Nature!"
	Nostalgia	Evoking Nostalgic Feelings	8-Bit: "Player one, get ready!"
	Invisibility, Surprise	Surprising the Enemy by Being Invisible, Unexpected Moves	Leon: "You cannot see me!"
	Fire, Energy	Fire-Themed Attacks, Projecting a Strong Character Image	Amber: "Burning bright!" Surge: "Surge protector!"
	Ice, Air Attacks	Strategic Control, Ice-Themed Attacks, Freezing the Opponent	Gale: "Here comes the cold front!" Lou: "Let us get frosty!"

When Table 7 is examined, this category explores the themes of creativity, originality, individuality, and thematic elements. The statements of game characters highlight players' capacity for self-expression and the development of creative solutions. Using humor and emphasis on individuality contributes to players feeling more empowered. For instance, Piper's statement, *"Oh, you are toast!"* creates a humorous sense of superiority.

This category underscores the importance of personalization and aesthetics in games while strengthening players' creativity and self-expression.

The discourse analyses under three categories demonstrate that digital games offer a multifaceted experience. The Offense and Agility category heightens the excitement of games with themes of fast action and aggression. In contrast, the Strategy, Defense, and teamwork category emphasizes the importance of strategy and teamwork. The Personal Traits and Thematic Elements category highlights players' creativity and individuality, showcasing how games can impact personal development. However, themes such as aggression and consumption call for deeper discussions regarding the ethical dimensions of games.

DISCUSSION AND CONCLUSION

This study critically examines digital games from the perspective of instrumental rationality, exploring their design, ethical dimensions, and gameplay implications. Drawing upon content analysis and discourse evaluation, the findings illuminate the mechanisms games engage players and the ethical challenges that arise. Digital games predominantly embody instrumental rationality, emphasizing efficiency and goal-driven mechanics. This aligns with Whitson's (2013) assertion that modern game development is increasingly guided by data-driven rationalization, focusing on maximizing player retention through measurable engagement strategies. The emphasis on optimization and resource management, as seen in themes like "productivity," reflects this broader industry trend. Studies investigating the effects of digital game addiction on academic achievement and school engagement report that game addiction has detrimental impacts on students' academic self-efficacy and sense of school belonging (Demir, 2023; Tonga, 2024). Arslankara and Usta (2020) revealed that problematic internet use increases risk perception in virtual environments, shaping individuals' instrumental thinking patterns. This finding contributes to understanding the efficiency and goal-oriented mechanics of games.

The results indicate that digital games frequently employ instrumental rationality through their characters and narratives, often neglecting ethical and moral considerations in favor of efficiency, victory, and competitive advantage. For instance, aggressive dialogues, consumption-focused mechanics, and highly competitive gameplay were notably common across analyzed games, potentially fostering negative behaviors among players. This reveals a significant ethical dilemma: while these features enhance player engagement, they simultaneously carry risks such as reinforcing aggressive behavior, promoting excessive consumption, and negatively affecting players' empathy and social interactions. Thus, game designers should carefully balance entertainment and competitiveness with ethical responsibility to minimize these adverse impacts.

Aggression and competition are core dynamics in many games, as illustrated by frequent calls to action like *"Let us finish this quickly."* While these elements enhance engagement, Sicart (2011) critiques such designs for normalizing violence and fostering adversarial mindsets. Bozkus (2021), who examined the relationship between violent video games and aggression, revealed that long-term use of such games led to significant increases in aggression levels within the framework of the General Aggression Model. This raises concerns about the social implications of these mechanics, particularly in younger audiences who might internalize such behaviors. Arslankara and Usta (2019) demonstrated that risk perception in virtual environments and levels of interpersonal trust can be negatively affected by dynamics of competition and aggression. This finding provides a foundation for ethical debates questioning the themes of violence in games.

Games often navigate the tension between fostering social collaboration and promoting individual achievement. For example, phrases like *"Stay safe, the car's ready!"* signify cooperative objectives, while customization options empower personal expression (Bartel, 2020). Striking this balance enhances player satisfaction and highlights the potential for conflict in team dynamics, echoing Nguyen's (2019) insights into the dualities of game agency. Dere and Yavuzay (2020) emphasize balancing the individual and societal dimensions of values education. Similarly, digital games aim to achieve this balance by harmonizing collaboration and individual expression.

Microtransactions and consumption mechanics emerged as significant themes, often driving the financial models of digital games. Aydemir and Fetah (2022), who examined the use of NFTs and play-to-earn models in digital gaming environments in Turkey, emphasize that digital games have evolved beyond mere entertainment tools into serious platforms for generating economic income. Brock (2017) notes that these practices frequently exploit players' impulses, creating dependency rather than fostering meaningful engagement. This aligns with the findings from *Consumption and Status*, where economic incentives were observed to shape player behavior. Arslankara and Usta (2022) detailed how digital consumption behaviors can impact individuals' well-being. This is important for understanding how game microtransaction systems shape player behavior through economic incentives.

Encouraging creativity and strategic problem-solving is one of the more constructive aspects of digital games. Sicart (2013b) argues that well-designed games can function as platforms for ethical and cognitive development, enabling players to explore complex dilemmas and practice decision-making. A recent study conducted in Turkey examining the skills high school students acquire through digital games found that such games contribute significantly to developing key 21st-century skills, including critical thinking, problem-solving, and creative thinking (Kocak, Korkmaz & Saltan, 2024). Such aspects are reflected in themes emphasizing *"creativity"* and *"originality."* In their 2023 study, Aksoy and Usta highlighted that digital badges and leaderboards enhance student motivation and make learning more enjoyable. These mechanisms are directly related to games' creative and strategic problem-solving themes.

The research highlights the dual nature of digital games as both tools for engagement and as vectors for ethical and societal challenges. Key conclusions include: The prevalence of aggression, consumption-

driven mechanics, and microtransactions necessitates reevaluating ethical responsibilities in game design (Verbeek, 2006). Addressing the interplay between individualism and social collaboration is crucial for creating inclusive gaming experiences (Flanagan, 2009). Games hold significant promise as tools for fostering strategic thinking and ethical reflection, as Sicart (2013a) advocates. Cop and Kablan (2018), who conducted a comprehensive content analysis of educational studies involving digital games in Turkey, strongly emphasize that digital games positively influence students' academic achievement, attitudes, and retention levels. Developers must prioritize ethical considerations, ensuring that games promote positive engagement without exploiting vulnerable players (Brock, 2017). Future research should investigate these dynamics' long-term psychological and social impacts, exploring alternative design strategies that harmonize entertainment with ethical responsibility. Arslan and Costu (2022), who analyzed postgraduate theses on digital games in Turkey, reported that research has increasingly focused on the effects of digital games on academic achievement and attitudes, with findings generally indicating positive outcomes.

Addressing ethical issues in digital games is undoubtedly important; however, eliminating these issues might be perceived as a risk to games' entertainment and competitive nature. However, ethical considerations and high entertainment value are not mutually exclusive. It is entirely possible, indeed preferable, to design digital games that remain deeply engaging, exciting, competitive, and emotionally appealing while adhering to strong ethical principles. Designers can integrate ethical perspectives into compelling narratives, creative gameplay mechanics, and positive reinforcement strategies promoting teamwork, empathy, respect, and fair play. A study examining the use of digital games across different educational levels indicates that, while digital games can be integrated into the learning process at all levels, they are particularly suitable and adequate for younger age groups (Ulker & Bulbul, 2018). By doing so, not only can games maintain their enjoyment and thrill, but they can also provide more meaningful and sustainable experiences for players. Future studies and practices should explore these innovative design strategies that harmonize ethical responsibility with captivating gameplay.

The findings of this study highlight how instrumental rationality, when embedded into digital games through character design and gameplay mechanics, may adversely affect players by neglecting ethical considerations. In parallel, recent research on generative artificial intelligence (AI) has demonstrated how users' interactions with AI systems shape their self-efficacy and usage competence, influencing their ethical decision-making processes (Arslankara & Usta, 2024). Similarly, digital games designed around instrumental rationality potentially mold players' cognitive frameworks and behaviors. This suggests that game developers, like AI tool developers, hold significant ethical responsibilities. They should, therefore, consciously design games that enhance players' ethical awareness and responsible decision-making capabilities without compromising entertainment value.

Statement of Researchers

Researchers' contribution rate statement: All stages of the article have been produced by the author.
Conflict statement: The Author declares that they have no conflict of interest.
Support and thanks: None.

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